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THE

Montreal Medical Journal

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G. GORDON CAMPBELL,
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H. A. LAFLEUR,
GEO. E. ARMSTRONG
J. GEORGE ADAMI,
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ANDREW MACPHAIL Managing Editor.

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THE ILL-HEALTH OF FRIEDERICH NIETZSCHE.

BY

GEORGE M. GOULD, M.D.,

Philadelphia.

"Es geht uns in diesen Dingen wie es uns im ganzen Leben geht: wir bringen es schon zur Erkennung eines Uebelstandes aber ist auch damit kein Finger gerührt ihn zu beseitigen." * (Letter of Nietzsche, 1867, aged 23.)

"In my eyes I have a dynamometer of my entire condition." (Letter, 1888, aged 44, and just prior to his collapse.)

The amusingly unsuccessful attempts of Professor Möbius[1] to read his own preconceptions into the life, character and illness of Nietzsche, have no better illustration than that pertaining to ancestry and heredity. If "science" is capable of such unscience then may the sponge be drawn over the slate, and the whole supplanted with the single sentence of Nietzsche's sister that there was in Nietzsche's case a sound and healthy ancestry. Many pages have been written concerning Nietzsche's father, and the cause of his death, and Möbius has made it sure to his own satisfaction—certainly not to that of his readers—that there was glioma of the brain. The simple fact is that having previously been in every way normal in mind and body, a dog one day caused him to stumble and plunge down a stairway, severely injuring his face and head. Cerebral symptoms at once followed and he died eleven months after with symptoms of brain trouble and meningeal irritation. Young Nietzsche was then three years old. He was born in 1844.

There was strong complaint and criticism in later years of the wretched darkness of the rooms at home and at school in which the boy was compelled to study, and at the miserable oil lamp by which the family read, wrote, or worked, in the evenings.

In 1861 he had been a model boy at school but suddenly changed and became a somewhat careless scholar, the reason for which his sister could not explain; he was enthusiastic in roaming the woods, and in chopping wood. He complained very much about the conditions of his school-life, throwing

[1] Ueber das Pathologische bei Nietzsche, von Paul Julius Möbius, Wiesbaden, Bergmann, 1902.

himself with great passion into other interests which lay beyond his studies. (Biography.)

From January to autumn, 1862, he appeared sound and healthy but suffered greatly during these months from colds, hoarseness and frequently recurring pains in the eyes and head preventing study, etc. (Aged 18.)

He was excused from school in order to get relief from severe headache and pain in the eyes; by means of walks and baths he recovered "soon and completely." (18.)

He was always backward in and disliked mathematical studies. (19.)

After a number of instances of breaking school rules, he seemed to have gathered himself together and made himself a model scholar, well liked by his companions. (20.)

"He writes and reads daily from the rising hour until 8.30 evenings without intermission except to eat." (Letter, aged 20.)

He was the picture of health and strength, broad-shouldered, brown with heavy dark hair, etc. (21.)

"Health from day to day pitiable. What will be the end?" (Letter, 22.)

"Since the last vacation I have suffered severely with rheumatism in my left arm." (Biography, 21.)

"I have been very ill during the last weeks, have been confined much to bed, even during the most beautiful days. My complaint is a violent rheumatism which crept from my arms into my neck, from there into my back, thence to my teeth and at present daily causes me the most intense headache. This continuous suffering has very much exhausted me. On certain days when I was better I went to Ems with most gratifying results from the quiet life there and the freshness and exhilaration of nature." (Biography, 21.

During his vacation the rheumatism again "crept" back from the head to his arms and spoiled the first weeks. (Biography, 21.)

"Bodily suffering persisted; for 14 days I was forced to go to bed at two o'clock in the morning to rise at six. A nervous excitability seized me and who knows to what extreme of folly I might not have gone had not the pleasurers of life, vanity, and the compulsion of regular study prevented."

Suddenly in February word came home that he had twice fainted away during the drill, and it was found that two days previously he had severely injured his breast bone against the pommel of his saddle in attempting to mount a fiery horse. In spite of great and increasing pain in his left side, he continued his drill, etc. Fever, confinement to bed, and severe pus-formation followed, and after a long convalescence he recovered his health with the exception that the wound remained open and the pus continued to flow. (24.)

The abscess continued to discharge and in June an operation was considered necessary. He was sent to Halle and placed under the care of Volkmann, who succeeded in closing the wound and healing the abscess without an operation. The injury never troubled him any more. (24.)

He was appointed professor at Basel in classical philology in 1868.

In attempting to be of service to his native land he went to Erlangen to care for the sick and wounded. He contracted diphtheria from a patient; to this his sister traces much of his later bad health. (26.)

"My health is so bad that my physicians are sending me south. Inflammation of stomach and intestines. Horrible insomnia!" (Letter, 26.)

He was exceptionally moderate in all things, quiet in his manner and bearing—prone to gaiety—in all things the opposite of a nervous or excitable person. In 1888 he wrote. "My blood runs quietly;" a physician who treated me for a long time as one nervously ill, finally said, "No, it is not your nerves that trouble you—it is I myself that am nervous. . . . Before he lost his health and even afterwards my brother was a great friend of hygiene and natural cure; cold rubs and baths, walks, house gymnastics, were zealously carried out, and even the problems of nutrition occupied his attention while his digestion was still good. He even tried vegetarianism for a while. . . . He was incited to this by the example and the enthusiastic advice of Wagner." He finally thought that nature revenged herself upon Wagner in this respect,

and speaks also of the sacrifice of another friend to such an experiment. (Biography, 26.)

". . . A long intermission of idleness and some natural methods of cure were necessary to restore him. He would not be sick, he had no time for that! His creative mind scorned every inactive hour. He would be well quick and thought to bring this about by drugs. One who like myself has seen such a normal and splendid nature gradually ruined as was his, will understand my passionate wish that the whole science of medicine were finally unlearned. Individual physicians have already done this. With bitterness I think how little the extraordinary and entirely varied influence of place, nutrition, and climate upon different persons is recognized and taught; for instance I hold that the climate of Basel is entirely inappropriate to all those disposed to migraine. Life and experience have taught me this, too late to help the one whom I have most loved." (Biography, 26.)

"Drugs destroyed my brother's good stomach;[1] after his recovery, so far as external appearances went, from a great shattering of his health, there was a severe occurrence every two or three weeks of his migraine. He now sought to overcome it by every kind of treatment, but this made it only the worse. To this was added severe ocular troubles attended at times with great pains in the eyes. Stomach difficulties, headaches, eye troubles, sleeplessness, such were his afflictions. Finally he lost all faith in physicians, but not, alas, in drugs." (Do.)

His frequent illness made him more and more a subject of treatment and commiseration. . . . He endeavored during the intermissions of his sufferings, and with his reduced power of work to bring the entire limitless circle of all his knowledge to word and system. (Do.)

"If only my eyes would hold out." (Letter, 26.)

In January, 1871, "His health continued to grow visibly worse. He became jaundiced, enteritis set in, and he was bitterly tormented by sleeplessness. Leave of absence was obtained from the university for an extended vacation in Italy. With out-of-door life he immediately recovered health and spirits and his playfulness was so noticeable that it was said of him that he must be 14 instead of 26 years of age." (Biography, 26.)

He returned to Basel April 10, 1871.

"Headaches," "uncertain nights, with terrible dreams," "headaches," are noted. "A horrible earnestness seized me in everything I attempt to do." (27.)

Extremely, extremely depressed. . . . He suffered greatly with his eyes during the summer, and a friend attended to much of his correspondence for him. . . . During the entire year his health was bad; it began with a severe cold and a week-long condition of grippe. In the summer his eyes plagued him, and in the autumn his stomach caused much uneasiness. Up to the end of the year his health was very miserable, but the two weeks of holiday season spent at Naumburg were of great benefit. He was much improved by his visit, especially as regards his nerves. (27.)

"In this way I will not spoil my stomach, my eyes and my vacation." (Letter, 28.)

"I was ill, lay abed—here at home—the old litany." (Letter, 29.)

"An extended grippal condition with inexhaustible colds." (Letter, 29.)

The spring of 1874 found Nietzsche in better condition than usual. (30.)

It seems to me at the age of 30, as if I had lived 60 years. Physicians and medicines have been banished since new-year's and still my stomach remains weak. . . . I am not yet entirely recovered from my Kindbettfieber." (30.)

". . . . geistig! (alas not bodily)." (30.)

"Recent reports of disturbing bodily sufferings." (Bulow to Nietzsche, (1874.)

"From time to time we are revenged for the dominating concealment and compelled withdrawing; we come out of our holes with frightful countenances;

[1] Frau Förster-Nietzsche's homeopathic prejudices and education are frequently visible in the biography. Doctors she does not like.

our words and deeds are then explosions, and it is possible that we perish of ourselves, so dangerously do I live." (30.)

"Misery with stomach and eyes."

"Stomach, digestion, color, all healthy! And with this so, in strenuous condition of productivity." (Letter, 30.)

"I lay in bed the next day with a 30-hour headache and much vomiting of gall; this was the beginning of a very bad time of sickness. Even a trip to the mountains and forest did not help me much at this time." (Nietzsche.) In the spring of 1875 I found him very miserable. (Biography, 31.)

The slight improvement in the condition of my brother did not continue. He suffered especially from his stomach which was in a truly pitiable condition; he used during the spring an incredible amount of medicines. (Do.)

He went to Steinabad in the Black Forest to consult Dr. Weil, a famous specialist in diseases of the stomach. He writes: "My disease is recognized as chronic catarrh of the stomach with decided dilation. This enlargement of the organ moreover is accompanied by blood-stasis whereby the nutrition of the head by blood is prevented. In the first place the stomach must be reduced to its normal limits; a remarkable diet is prescribed, limited almost entirely to meat.. Carlsbad Sprudel salts is ordered and also leeches to the head. I have been feeling badly up to now; yesterday I went to bed with headache and to-day am weak and tired. The abnormal acidity of the stomach, it seems, depends upon the brain and nerves, indirectly however from its enlargement in so far as concerns the lack of blood circulation. The dilation is very decided, and moreover very interesting, because it is in an unusual direction, towards the right. The question remains, what is the cause of this dilation? Usually it is due to a narrowing of the pylorus, from tumor. Now you know exactly how the matter stands. The boundaries of the stomach have been marked with points and it is hoped to drive it back to its normal position."

Later he writes: "The diet has been very much changed; at my request I eat very much less. I grew tired of meat. I take a bath at six o'clock in the morning and then walk for two hours before breakfast.... Wandered about three hours in the afternoon nursing my hopes for the future, getting a glimpse of the happiness which I had known for a long time." .... Still later again he writes: "I have had a long talk with Dr. Weil; yesterday I lay in bed again with violent headache and yesterday afternoon and night was tormented with great vomiting. The dilation of the stomach has been conquered with very happy results during the two weeks of the cure.[1] The stomach was retracted to its normal limits, but the nervous condition of the stomach is a tiresome matter. According to the demands of the cure you must be very strict and lose no patience. During the fresh cool weather I had some very good days, and wandered about through the mountains and forests, always alone, with great pleasure and joy."

".... For my pleasure and instruction, Dr. Weil will cook with me. He is a famous artist in cookery and an author of a much used, much translated, dietetic cook book. He yesterday delivered a lecture to me upon enamelled cooking utensils, and a new meat-chopping machine, and in this way I learn much for my own housekeeping."

He returned in the fall in excellent health and full of cheerfulness. Even when in bad health he was never in bad humor. He reserved the morning for his original work and considered it criminal even to read in the forenoon. He was taking long walks at this time and had his sister with him. (31.)

By the end of November his health had grown decidedly worse, but how much work he was doing! Feeling himself so well it seemed he could not give himself sufficiently severe tasks in working and study. Besides historic, mathematic, physical, scientific and economic studies, he planned a collection of empirical materials of human knowledge. (1875.)

Not feeling himself so well his sister read to him during the evenings. The fortunate domestic relations which he had then established, proved in reality bad for him. Finding himself so comfortably situated at home he

[1] A very accommodating stomach!

went out less, and was less inclined to take pleasure trips, and plunged with redoubled energy into study. Before either his physician or himself had recognized it, I saw that the stomach was not the sole cause of his troubles, but that his intellectual exertions were equally to be blamed, and that the only way of saving him was by frequent change of climate and surroundings. But the worst of it all was that as soon as he felt himself worse he began treating himself with the old drugs. Shortly after Christmas his health broke down altogether, he suffered with frightful headaches and painful vomiting of mucus, for almost four days continuously; after a short omission the same thing again occurred. It was plain that he must leave Basel. (31.)

"It has not been well with me: very frequent sufferings of stomach, head, and eyes." (Do.)

"A bad time behind me and perhaps a worse to come. The stomach could not be conquerred even with most ridiculously severe dieting; several days of the most violent headache, returning every few days, hour long vomiting although nothing had been eaten; the machine seemed bound to go to pieces, and I will not deny that I often wished it would. Great exhaustion followed, walking in the street was painful and there was a great sensitiveness to light. Immerman treated for something like a gastric ulcer, and I expected bloody vomiting. For fourteeen days I took solutions of lunar caustic,—nothing availed. I am now taking enormous doses of quinin.... I have continued my lectures and readings, interrupted only on the worst days when I was confined to bed.... I have planned a new sketch of my lecutres for the next seven years. (Do.)

"For several months in an accursed crisis of stomach troubles which begin to shatter the very foundations of my existence. With difficulty I live from one day to another. Every week or two the physicians try something new. What headaches! ... the burden of my special work, of itself enough, becomes doubly oppressive.... As things are I really can write no letters.... My literary work had of course to be given up, I am not able to write a line. (Do.)

"Who can say so definitely that my disease is migraine? Immerman has no such certainty, and himself says that he is only experimenting with the nerves since previous remedies were resultless. If this does not help, something new must be tried. Acidity oppresses me and everything except the tenderest meat, becomes acid; I am therefore convinced that the nerve hypothesis is wrong. Besides, headache in migraine is one-sided, but mine as you know is not so. The torment in and over both eyes is great. God help Immermann, then will he help me. In the meantime—dubito. (Do.)

"At Steinabad near Bonndorf, with triple modified diet and an experienced old physician.... With the greatest foresight and care, as a whole I am better. The quinin-cure continues. (Do.)

"For weeks in the power of a desperate disease of the stomach and head." (Do.)

"Two severe attacks, sending me to bed. The treatment at the institution was not sufficiently active and specific, as the doctors say. (Do.)

"That I must renounce all writing work for a longer time [than seven years] becomes ever more clear to me." (Do.)

"Like Immermann, Dr. Weil thinks I have a nervous affection of the stomach, which is always a chronic affair." (Do.)

"It is not death that could most frighten me, but only a sickly life, in which one loses the *causa vitæ*." (Do.)

"Relapses of my gastric disease." (Do.)

"The conviction of the worthlessness of life and the folly of all aims oppresses me so heavily, especially when I am sick abed." (Letter, 1875.)

"The chronic torment seize me two days or longer about every two weeks." (Do.)

"I cannot doubt that I am the victim of a serious cerebral disease and that stomach and eyes suffer only from this central cause. My father died at 36 from cerebral inflammation. I may go even sooner. I have used several-hour long ice-bags upon the head by Immermann's advice and head baths early in the morning and my utter exhaustion and bitter torments are some-

what relieved. But it is not even genuine convalescence; the secret misery is not ended and I am reminded of it every minute.... I live almost entirely upon milk,—milk and sleep are the best things now left me. If only the frightful attacks lasting days, would not return. (Letter, 32.)

"Much suffering and bad outlook as regards my health." (Do.)

"In Naples I consulted a most excellent and famous physician, Professor Schrön. One has the choice between six other German physicians." (Letter 33.)

"No considerable improvement, although the last attack of yesterday was not so long, owing perhaps to a salve for my forehead, which Schiess had ordered." (Biography, 33.)

He was sick in Genoa. Found the journey improved his eyes although he was allowed to write but brief notes. The winter passed very pleasantly with walks, lectures and dictation. His health however remained poor, and he gradually come to the conviction that not even the south and freedom would give him back his health. Towards spring his eyes especially began to suffer and an unpleasant shimmering prevented him from writing and reading. He returned to Switzerland in May in order to undergo a "cure" and to be in the mountains. (Do.)

"The mountains always have a good influence upon me, although I lie here in bed or drag myself about all day with pain. The thinner the air, the better for me. I have just began a 'cure' with St. Moritz water which will take me several weeks." (Do.)

It has been recommanded especially for deep-seated neuroses.... My very problematic thinking and writing has always made me sick. So long as I was really a teacher I was healthy. (Do.)

"My power of resistance was at last broken."... "Violent headache."

The winter was begun bravely, for he had found an excellent physician and expected good results from his treatment.... "He is experienced; the son of a physician and about 40 years of age. I have confidence in born physicians." (Do.)

".... But towards Christmas the old experiences, as in 1876, were repeated: headache and pain in the eyes became so severe and continuous that we did not know what to do. Part of his duties at the university were given up; later his physicians concluded that frequent change of air would be the only method of alleviating his sufferings. He went to Baden-Baden and the spring found him so much better that he became confident and hopeful." (Biography, 34.)

"Half-dead with pain and exhaustion. The entire week one attack after another." (Letter, 34.)

"Only with difficulty and as it were in a one-sided manner he seemed to drag himself along and his speech was often slow and halting." (Deussen, 34.)

"A bitterly bad Sunday of pain.... I was compelled to telgraph my non-arrival at Zurich and remain in bed.... One attack ofter another for a whole week." (Biography, 34.)

"I hate Basel more and more and shall quit it so soon as possible." (Postal card, 35.)

"A winter filled with misery." (Do.)

"At Easter he went to Geneva without finding any relief. Upon his return there was a frightful crisis, attack after attack of the severest headache and pain in the eyes, with day-long vomiting; all his patience and bravery were utterly exhausted. He seemed a broken, tired, aged man." (Do.)

"He appealed to the university to accept his resignation. He had lost all hope of being able to resist his disease longer." (Do.)

My eyes gave me the greatest concern, they alone not improving and according to three authorities no improvement possible for them. Find me some one to read and write for me. (Do.)

By September he had wonderfully recovered and hope again filled his heart, but in 14 days he found the gardens so bad for his eyes that he could no longer hold out; the whole year of 1880 was the worst that he ever endured. "A heavy, heavy load is upon me; during the last year I have had 118 severe attacks." (Do. 36.)

His sufferings gradually increased enormously, although he had no work to do and no book to write. Before this he had said: "I dare not die, I have so much to do." But now for the first time his wretchedness was so extreme that he 'onged' for death. He bade farewell to all those whom he loved. (Do.)

"With terrible energy however he gathered himself together, hastened to the south and began a passionate struggle with his disease and with relentless fate that threatened to annihilate him." (Do.)

"My existence is a frightful burden. I would long ago have thrown it off if I had not precisely in this condition of pain and absolute renunciation been making the most instructive tests and experiments in these mental and social things. This joy in knowledge brings me to heights where I win the victory over all martyrdom and hopelessness. In a general way I am more fortunate than ever in my life, and nevertheless, continuous pain and many hours of the day a feeling like seasickness, a semiparalysis in which speech is difficult, alterning with attacks of rage, the last resulting in vomiting for three days and nights. I longed for death. Inability to read, seldom to write. To be alone, and to walk out, mountain air, a diet of milk and eggs.... Cold is hurtful to me. I shall go south in order to begin the life of walking." (Letter, 26.)

"I had in the last year 118 severe attacks; the slight ones not included. If I could describe them for you, the continual pain and pressure in the head, over the eyes, and that general feeling like paralysis from the head to the toes!" (Do.)

"Nearer death than life." (Do.)

"Cured, or at least on the road to cure." (Do., 38.)

"I my self am perhaps on the other side of the good and bad, but not of disgust, boredom, melancholy, and pains in the eyes." (Letter, from Venice, Do., 42.)

"My wish to winter once more in some German place of learning among friends and books—a wish that rises to hunger and torture has always been wrecked by my health. But 'the day will yet come.' (Do., 44.)

"A most violent and obstinate headache exhausted my powers. It increased to the highest degree of habitual painfulness until at one time I had 200 sick days in the year. The evil must be utterly of local origin and every sort of neuro-pathologic bases is wanting." (Nietzsche, quoted by Möblus, 44.)

In one of the last days of December, 1888, or in the first days of January (dates not definite) Nietzsche fell, near his lodgings in Turin, and could not rise again. A servant found him and led him home with much difficulty. For two days he lay silent and still on his sofa, when abnormal cerebral activity and confusion were evident. He spoke much in monologue, sang and played the piano loud and long, lost the sense of money value, and wrote fantastically to and about his friends, etc. Overbeck hurried to him and brought him to Basel, to the sanatorium of Professor Binswanger, the alienist, where the diagnosis, according to Deussen, of progressive, later corrected to that of atypical, paralysis, was made. His mother had him brought to Naumburg, cared for him until her death in 1897, after which his sister moved with him to Weimar. He died August 25, 1900.

According to Dr. Reicholdt the immediate cause of his death was pneumonia, with edema of the lungs. There was no autopsy.

Nietzsche's Personal Character, despite all the calumniation, and misunderstanding of many that have written of him, and despite the character of some of his writings, was one of exceptional purity and perfection. This is the testimony of all who knew him. In the agony of suffering, in the extremes of mental disease he showed, indeed, occasional hauteur, hardness toward friends and relatives, qualities that would scarcely be noticed were it not for the antipathies, literary and critical, actuating the enemies of his philosophy and opinions. With-

out a hundredth of his physical wretchedness and irritation others have exhibited unblamed faults a hundred times greater. His sister writes of him:

"At all events the word 'friend' for him spread a thick, brilliant, and illuminating covering over any beloved and honored being. He decked it out with all of his own best qualities and made of it a real work of art."

Even Möbius says he was friendly, compassionate, sympathetic, and thoughtful of others. He was always of a bright and joking disposition, and was beloved by all who knew him at the many houses, hotels, and lodging houses, in which he lived. He had at these places in later life the reputation of one who had given up his professorship because of his nearsightedness.

As a boy of about 15, to show his companions that some historical anecdote was not impossible, he took a bundle of matches, lit them in the palm of his hand, and held it extended while they burned.

In 1863, aged 19, he was greatly grieved by having been tipsy, and his disgust with smoking, drinking, "Kneipe," and "Burschenschaft" grew until, in 1865, he renounced them all for the rest of his life. His sister, in 1869, speaks of his "musical voice, pleasing appearance, strong stature, noble face, brilliant eyes—'Götteraugen.'" She also says of him that she never knew him to be in a "bad humor," and that he was the best of patients even during his years of paralysis. Seydlitz says his character was clear and pure as a mountain brook, and that purity and modesty gained from him a new worth. Because of the silly and nauseating attempt of Möbius to fasten upon him the stigma of "exogenous disease"—syphilis, a charge that appears utterly without justification medically, scientifically, individually, or socially—one must allude to the story of his fleeing horror-struck from abandoned women in whose society he was once accidentally led. Deussen correctly says:

"From all that I know of Nietzsche I believe that the words may be applied to him which Steinhart uses of Plato:—*Mulierem nunquam attigit.*"

As to his original intellectual vigor and startling strength of purely mental endowment, apart from its later affection through long wreckage of disease, the fact stands out with wonderful clearness in that at the age of 24 he was unexpectedly called to the professorship of classical philology at Basle. His sister says in the midst of his greatest suffering:

"His disease was especially unendurable because it continued all day and permitted him but a few hours of sleep at night; despite his suffering his intellect kept steadily at work. He says of himself at this time, that 'in the midst of his martyrdom during an uninterrupted headache of three days together with exhausting vomiting of mucus, my intellectual clearness did not fail. I thought things cold-bloodedly through, which even in my more healthful condition was impossible to me.'" (35.)

Writing of this period at a later date, he said:

"All true symptoms of dis ase are wanting in me. Even in the time of

the most severe illness I am really not sick. One will seek in vain in me for any trait of fanaticism.... One must have no nerves."

The Synchronous and Equal Suffering of Eyes, Head, and Digestive System, is the most striking peculiarity of Nietzsche's case, which singles it out distinctively from that of the others that I have studied. Rarely, most rarely, have I found such an equal resistance to disease, and such a combined affection. In the average system one set of organs will bear the brunt of the reflex, and will give away first. The fact shows the utmost extraordinary strength and perfection of his organism—a fact that is borne out by all the data concerning his life and illness. At times the attention of the patient or of his many physicians was directed to one set of symptoms or organs, but there is never any doubt that although the eyes complained always and often first, the brain and stomach were almost equally and severely and usually synchronously affected. And the intensity of the pain and morbid action were perhaps greater than any other man ever endured. All things considered no patient ever suffered more grievously, no martyr ever endured more intense and continuous torment. The pathetic tragedy of Nietzsche's life seems to me unexampled.

All Symptoms caused and intensified by Ocular Work, and relieved by Walking and Ocular Rest. In every case of these *Biographic Clinics,* and in thousands seen in private practice the fact is evident that all the reflex symptoms, ocular, cerebral, neural, psychic, and digestional, depended accurately upon the amount of ocular labor, and were relieved precisely in proportion to the amount of walking or physical exercise done, or in other words, upon the rest given the eyes from reading and writing. In Nietzsche's case this relationship is as clear, and in order to make this manifest I feel compelled to copy so large a number—by no means all—of the passages which bring it out. Even at the age of 21, he complains of his handwriting, although all through his life this was of exceptional excellence and accuracy in the formation of individual letters.

"My intolerable handwriting,... and with it how my thoughts cease." (Letter, 21.)

"Pardon this stupid letter; but the violent pain in my head prevents all proper writing." (Do.)

Although he seems to have written a very clear and beautiful hand, he speaks with vexation of his handwriting and that his thoughts suddenly stopped with the effort of writing, "I cannot control myself as regards pen and ink; during the last four pages all my good nature has left me, and I can only note the driest of facts." (Biography, 21.)

He was very musical, often inclined to adopt music as a profession, and while officially studying theology was more earnestly devoted to art and philology. (Do.)

"Lonesome walks." (Letter, 22.)

"So soon as my [literay] work was compelled I flew to the Bohemian forest in order to bathe my tired soul in nature, mountain and wood." (Do.)

"His energetic nature drove him to gymnastic and all sorts of sports, because he thought that this was necessary, more for himself than others, on account of his eyes." (Do.)

"Nature originally endowed him with a robust body; so soon however as he was no longer in possession of his primitive health and strength, he was compelled all the more toward struggles of the intellect more grievous and torturing." (Do.)

"To-day, also, I can write no more." (Letter, 24.)

"Writing becomes difficult." (Letter, 26.)

"I read and again reread.... A long time ill and had to lie in bed, and even now have not fully recovered." (Letter, 29.)

"But my eyes—those obstinate, dangerous, and risky things—command me to stop, when I was just about to write you a good letter." (Do.)

"The weakness of my eyes permits me to congratulate you only in a few lines." (Do.)

"All this is little and poor, but alas, much too much for my eyes." (Do.)

"A laborious winter, working from 8 o'clock in the morning until 11 or 12 at night." (Do.)

"I write to say that I cannot write." (Letter, 31.)

"The detestable winter half-year is not yet past." (Do.)

"Had to fly away.... because I was compelled to take to bed for the second time." (Do.)

"The summer was heavier because of the eyes which often pain. I rise at 5 which does me good." (Do.)

In 1876 a friend acted as amanuensis and helper to him because of his bad eyes. Before his journey to Italy he spent five weeks in special treatment ("*Atropineure*") of his eyes. "About every eight days I make a 30-hour sacrifice to my health.... my eyes forbid letter writing." (Letter, 32.)

"Even the condition of my eyes does not influence my regained confidence in myself. Shiess finds them worse; I need an amanuensis, that is the chief thing." (Do.)

"Complete rest is not so easily carried out." (Do.)

"Only since I have given up my lectures have I deteced any betterment." (Do.)

"Improvement in health,... diversion and movement from place to place." (Do.)

"I cannot write, myself, but must use the pen and hand of my sister." (Do.)

"In snow, rain, storm, and sunshine wandering about, and therewith I have found myself." (Do.)

"Six days in Geneva rich in many experiences... and mastered sickline s and whimsicality.... I found once more the good conscience." (Do.)

"Only a postal card, my eyes permit nothing more." (Do.)

"I breathe and see coming health." (Do.) (From Rome.)

"I climb the mountains to run away from my headache.(Do.)

"My intolerable headaches, for which no treatment has done any good, forbid my writing. The exception I am now making to the rule must be expiated." (Do.)

"My sister reads to me a great deal because reading and writing is hard for me." (Do.)

"It hurts me to write." (Do.)

"Bettering health." (Do.) (From Sorrente.)

"Slow improvement. But I cannot read." (Postal card, 33, Sorrento.)

"My eyes have almost suddenly become so bad that I am nearly unable to read at all." (Letter, 33.)

"My eyes are worse, my head not better." (Do.)

"My health remains bad, very fickle, the eyes a little better." (Do.)

"I felt well one day and I wrote five letters, and the next day was confined to bed; the last 15 days have been pitiable." (Do.)

"But the eyes say, stop!" (Do.)

"Your novel twice read;... between times I vacillated with my health to and fro, and yesterday, lying abed, etc." (Do.)

"My brain and stomach is ugly with overfilling. Much reading dulls the brain frightfully." (Do.)

"In spite of it I do not write, and I wonder why. This reason just occurs to me: The hand which writes the entire day, and the eye, which sees white paper become black from early morning till evening—both demand change or rest." (Do.)

"The 100 books which are before me on the table are so many forceps which burn up the nerve of independent thinking." (Do.)

"I dare not write any letters.... Next week I go to Heidelberg and Frankfurt to see physicians:—electrotherapy recommended." (Postal card, 33.)

"Do not blame me because I write no better to-day." (Do.)

"My health is bad, head and eyes refuse to work more than ever. I had therefore to dictate." (Letter, 33.)

"My eyes will not let me answer your letters." (Do.)

"Letter-writing no more... weakness and deeply shattered health.... A hermit-life as of an old man.... In spite of this I am courageous; forward, excelsior!" (Do.)

"I must have the blue sky above me when I attempt to gather my thoughts. By a mountain brook overhanging an abyss, he said, Here I love to lie and have my best thoughts." (Deussen, 33.)

"In his house, or as he said, in his hole." (Deussen, 33.)

In breaking up housekeeping he selected two large trunks full of books to take with him upon his journey.

With the departure from Basel the worst condition of his health was at an end, but he always expected it to return. Half blind as he was and so exhausted, we travelled much about. In three weeks he was considerably better.... Later he was accustomed to say "the Engadine gave me back my life again." (Biography, 33.)

Despite his bad health he completed his book by the aid of his friend as an amanuensis. (Do.)

"My health is better. I am tireless in walking and in solitary thought." (Letter, 34.)

"Instead of recreation at the end of the week he worked with inexhaustible zeal at his new writing." (Do.)

"No letter has been possible for weeks." (Letter, 35.)

"In order to venture on a letter I must on the average wait for four weeks until the permitting hour arrives,—and then afterwards I must atone for it." (Letter, 36.)

"I have brought a big basket of books with me up here." (Letter, 39.)

"From year to year my eyes permit me less writing." (Letter, 40.)

"I am suffering very much with eyes and long for the shadows of the streets [of Venice]." (Letter, 41.)

"My three-fourths blindness compelled me to desist and to fly to Rizza which my eyes have learned by heart. There is more light there, it is true, than in Munich. I know of no place except Rizza and the Engaline where I am still able to use my eyes for a few hours a day. But this winter will probably see an end even of that." (Letter, 44.)

"Dog's weather in which my health is wrecked." (Do.)

"For eight days the sky continuously overcost, cause enough to warrant a deep nervous exhaustion with relapse of my former sufferings. I have never seen worse weather than this here, precisely when I have journeyed in order to escape bad weather." (Do.)

"The weather is extremely changeable and is not the same for three hours. My health vacillates with it." (Do.)

"His rule was: The method of Julius Cæsar against illness and headache: frightful marching, the simplest living, uninterrupted life in the open air, continuous hardships." (His sister, in *die Zukunft.*)

Great despair in 1888, "almost the prey of dark determination." "The awful labors of 1888." (His sister, in *die Zukunft.*)

"In my eyes I have a dynamometer of my entire condition. (Letter 44.)

"In fact I have only a few hours of each day only a very few hours for reading and writing, and when the weather is gloomy, none at all." (Do.)

"Health has returned with better weather." (Do.)

"The most incredible tasks easy as play; health like the weather, daily returning with boundless clearness and certainty." (Do.)

"The history of my spring times for fifteen years at least was always one of horror, a fatality of decadence and weakness. Places made no difference. No recipe, no diet, no climate could vary the essentially depressive character of this season." (Nietzsche, quoted by Möbius, 45.)

The Ocular History.—In the biography his sister writes as follows:

He suffered much from coughs, colds and hoarseness during his boyhood and youth, and from his twelfth year, his eyes caused him great trouble. But the examinations of a famous oculist in Jena proved that there was no inflammation, or abnormality of any definite kind except that the ball of the eye, as in all myopes, was highly rounded. "I think that this myopia may have been caused by somewhat too dark rooms during childhood, for I am also near-sighted. While a pupil at Pforta he complained very much of the very bad lighting of his class room and chamber; at all events his short-sightedness increased very much. Twice, also, he suffered for long periods from headache caused, as it was believed, by over strain of the eyes. One did not notice the large, beautiful and brilliant eyes because they were never inflamed. In his first year at Pforta he grumbled very much at the fact that so little attention was paid to the eyes, and himself as student, undertook great care of them, sparing them as much as possible, although owing to his excessive desire for knowledge I do not think he succeeded very well."

His sister thinks that probably to his short-sightedness was due the accident that occurred during his military service, and afterwards a certain impracticality in the ordinary affairs of life, although in her preface to the second volume she combats the prevalent idea that would explain mental and spiritual greatness upon pathologic grounds.

The examining surgeon refused to pass him for military service on account of his great near-sightedness, although in other respects he was strong, healthy and sound. A revision of this order, however, was later made whereby those who required No. 8 spectacles were passed if otherwise sound and healthy. Although this number of glasses was altogether too weak for his eyes, it was what he had recently been wearing. His eyes were not examined, except to judge from the glasses he had been wearing. He was therefore entered for service. (Biography, 33.)

He was exceptionally enthusiastic and active in carrying out his severe military duties. (Do., 34.)

"Graefe found him wearing ⅛ [*i. e.*, 5 D. lenses] before his military service, and that these were too weak, so that he gave him instead 1-5 [*i. e.*, 8 D.]. Later Nietzsche needed stronger lenses, from 7 to 10 D., but only for reading and writing. To this defect was added insufficiency of the interni." (Personal letter, 1903, from Dr. Vulpius, who attended Nietzsche for ocular disease in 1899, and 1900.)

In March from Gersdorff he wrote:

"It goes somewhat better with me after a long and painful period of ill-health." He returned for the new term at the university feeling much better and full of hopes, but the condition of his eyes remained unchanged. Professor Schiess found his myopia and ocular weakness increased, but Nietzsche said that the disease of his eyes, which at times threatened blindness was only a consequence and not a cause, so that with increase of vital energy, even his visual ability also increased. (31.)

"Time, and especially eyes, fail me to thank you. It is now floodtide with me in all necessities which my bit of eyepower entirely absorb. You fortunately do not understand the physiologic condition. I have to use, for reading and writing, No. 3 spectacles. If my three ophthalmologists had been right I should years ago have been blind." (Letter, 44.)

"The spectacles preserved by his sister, are 'No. 3,' having also prisms bases in. These were used only for reading." (Personal communication, 1903, Frau Förster Nietzsche.)

"After his paralytic attack in 1889, he never wore any glasses, and never read and wrote." (Do.)

Möbius says that the examination at the Basel Insane Asylum after his attack showed that he had convergent strabismus. In that of Jena in 1890 the right pupil was found dilated, the left myotic and irregularly so. All reactions were preserved in the left, but in the right only convergence reaction.

"In 1899-1900 he had an obstinate relapsing iritis of the left eye; Dr. Vulpius finally effected a cure. The right pupil was wider than the left." (Personal communication, 1903, of Dr. Vulpius.)

According to Dr. Möbius, Professor Graefe of Halle told him: "Your eyes are both a clear and an evil example of the extent to which great students can ruin their eyes. I should advise you not to write or read a word for years. But I might just as well forbid you not to breathe."

Möbius contends that his myopia was inherited, as his father was also nearsighted, and his sister is so. One may accept this theory or deny it, or accept it as in part true, and still emphasize a number of deeper-lying questions. But the most fundamental of all errors made by the majority of Nietzsche's oculists and general physicians was excusable, perhaps, thirty years ago, but is utterly beyond pardoning in those who treated him in late years. This blunder, for such it must be called, is manifest in the monograph of Professor Möbius, issued in 1902, in which he says:

"Since shortsightedness causes no pain, it remains a question of atypical migraine."

And again he repeats:

"Myopia does not cause migraine."

In these sentences is revealed the fatal defect of European ophthalmology, which to-day ignores astigmatism,[1] almost entirely, and especially myopic astigmatism. Astigmatism exists in myopia as constantly as in hyperopia. It may not and usually does not cause the severe reflexes and morbid results as in hyperopia, but it may do so, and in many cases does do so. In Nietzsche's case it is astonishingly clear that it did. That astigmatism was present is demonstrated in the following extracts from letters written by Nietzsche in 1876:

"At first I could not write, and then came the eye treatment, so that I am not allowed to write for a long time. In spite of that I read your two letters, —perhaps I read them too long."

"My eyes are being treated with an atropin-cure, and they will not allow any letter-writing, even if it were possible, of which I doubt."

All oculists, of the American type at least, will readily see that cycloplegia induced in highly myopic eyes without astigmatism does

[1] And also anisometropia.

not prevent ability to read and write. Such oculists will also recognize that atropin in nearsighted eyes will not "cure" myopia, nor will it lessen the eyestrain and its reflexes and more than cessation of reading or writing would do. More certain is the inference that the lessening of his visual acuteness and power to read with atropinization was due to the fact that it paralyzed his accommodation power to neutralize partially his astigmatism. One wonders if the *Atropin-kur* is still carried out to-day upon the million or more myopes of Germany.

Nietzsche's myopia also increased very much during his short life, and this as we now know was the natural and inevitable result of overcorrection of myopia and noncorrection of his astigmatism and anisometropia. Another astonishing fact is that he wore high power myopic lenses for reading but not for distant vision, and this again proves how incorrect his glasses were. Finally one must notice the odd contradiction that he wore prisms bases in for insufficiency of the interni, and that when examined at Basel he had convergent strabismus. The acute attack of cerebral paralysis may however serve as a partial explanation. In spite of the fact that pain in his eyes was the bitterest complaint during his adult life it must not be forgotten that there never was any inflammation except the iritis in his last year. Considering the lack of proper correction of his eyestrain, and the terrible abuse of his eyes, that Nietzsche did not become blind from malignant myopia is indeed a wonder, and a tribute again to the magnificent powers of resistance of his organism.

Colds, Influenza, Rheumatism, etc., afflicted Nietzsche as much throughout his life as they did Mrs. Carlyle, and other suffers from eyestrain.

"He suffered much from coughs, colds, and hoarseness, during his boyhood and youth." (Biography.)

"From January to autumn, 1862, aged 18, he suffered greatly from colds, hoarseness and frequently recurring pains in the eyes and head." (Do.)

"In 1863, aged 19, he was seized with severe cold and was confined for a long time to bed." (Do.)

"During the entire year of 1872, aged 28, his health was bad; it began with a severe cold and a week long condition of grippe." (Do.)

Further citations need not be made to illustrate the frequetly noticed connection between eyestrain and inflammation of the mucous membrane of the upper air-passages. The probably self-made diagnosis of "rheumatism" illustrates in excerpts on a previous page also illustrates the observation that muscular pains, anesthesias, numbness, temporary pareses, etc., are often forthcoming in severe eyestrain, and disappear at once upon its relief.

"*Migraine*" is a word often as loosely applied to "atypical" diseases, as "biliousness," "nervous dyspepsia," and many such used both by physicians and laymen. These words appear to satisfy many

otherwise intelligent people, and by applying them to a set of symptoms there is a seeming belief that the disease is explained. Learned medical articles have been and continue to be written on "migraine" with no trace of curiosity or care as to the cause of that mysterious malady. Labeled with a name its nature and etiology no longer concern. In different treatises upon it by equally great authorities the most glaring contradictions and illogicalities constantly reappear. In many the eyes as a cause are mentioned only incidentally and, as it were, as a routine sacrifice to or flattery of encyclopedic knowledge. Möbius thinks that Nietzsche's migraine must have been "inherited" —that favorite word for inability to explain—while at the same time he had glioma of the brain which caused his wrecking. Again he says that his migraine was "due to his mental activity. It was always the same; the fresher he was the more passionately he worked, and the more he worked the more he brought on the return of the attacks." But he admits there was no trace of "progressive" or "atypical" paralysis prior to 1875. And yet how much the man had endured for years prior!

In the text-books hemicrania is put down as a synonym of migraine, and yet the fact that his particular migraine was not one-sided struck Nietzsche's attention and caused him perplexity.

In all that has been written by himself or others concerning Nietzsche's illness the old but ever noteworthy wonder appears at the sudden changes from the most violent suffering to the most complete relief and apparent health. In his case these lighning-like changes are so remarkable that they confuse himself, friends, and physicians, as might be illustrated by many quotations. His sister thinks he was as well, from 1882 to 1889 as other people, and that his complaints were due to psychic suffering, loneliness, non-recognition, etc., and yet he himself writes that he had some 200 sick days within one year during this time. She also says that during these years his headaches were rather a *Benommensein* (stupor) for which he walked a great deal, and that he had on the average only from seven to ten migrainous attacks a year without vomiting. Once more she says that in these years he only had eye-troubles, not bodily suffering, and that these consisted only of *Flimmern* and poor vision, adding that these symptoms were due to intense overwork of the eyes. "His tired eyes produced his *Benommensein*," for he was most actively writing and reading proof all this time.

It must be remembered that during this time he daily walked a great deal, developing his aphorism-style, by thinking during his walks, and by jotting down his thoughts as they occurred to him in his note-book always in hand. Although intellectually keeping up the strain the

relief to his eyes often lessened the general and especially the digestional reflexes. In a letter to me his sister says that from 1881 and 1882 he thought himself cured; that his headaches were changed in character, he had much less vomiting; and he had not to go to bed with headaches—except in 1883. But all agree that his excessive application brought on his "sudden" paralysis in 1889.

Instead of "migraine" let us call his disease by the old-fashioned popular name of sick-headache, and add that the oculist who to-day is not able to cure 99 cases out of 100 of this common and terrible disease by relief of its causing eyestrain is—not so expert as he should be.

In an article in *Die Zukunft* (no. 14, vol. viii, Jan. 6, 1900) Nietzsche's sister, concerning her brother's illness, writes the following astonishing paragraph:

"His physicians could never determine whether his headaches were caused by his ocular disease, or whether his weak eyes were the result of his cerebral disease. Four physicians treated him in 1878-79. Two said that his headache was the cause of his trouble and two heaped his entire sufferings upon the condition of his eyes. One of those was Professor Graefe. It was by Graefe's advice that my brother gave up his professorship because reading and writing the Greek letters of the alphabet was particularly harmful. Later as the condition of the eyes bettered we have usually called his disease migraine."

Thus by the irresistible logic of the facts two physicians, long ago, were driven to the conclusion that the true cause of this man's awful sufferings was eyestrain. Of course they could not or did not, suspect that it was astigmatism, and they perhaps hardly dared to include in the results the vomiting and digestional reflexes always bound up with eye-work and other symptoms.[1]

"*The Horrible Earnestness.*"—Driving his organism with reckless fury to its special work of erudition the young professor found that "a horrible earnestness," "a nervous excitability" seized him in everything he attempted to do. In almost every case of severe eyestrain there is a similar experience. I have found it in nearly all the cases of the literary workers so far studied who had great eyestrain. Carlyle has written:

"There is a shivering precipitancy in me which makes *emotion* of any kind a thing to be shunned. It is my nerves, my nerves."

"My work needs all to be done with nerves in a kind of a blaze, such a state of body and nerves as would soon kill me if not intermitted. I have to rest accordingly, to stop and sink into total collapse, to get out of which is a labor of labors."

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[1] In 1874 the great eyestrain sufferer, Wagner, wrote to Nietzsche:

"My wife will soon write to you; she suffers from her eyes; without her I connot get on. Overbeck alone delights me because he wears no spectacles."

In 1879 the great eyestrain sufferer Nietzsche wrote a letter in which occurs this sentence:

"You will have heard from Overbeck how extraordinarily good has been the effect of his stay at St. Moritz, so that his fearful headaches since then have only returned in slighter degree.... Noteworthy improvement, lasting now five weeks."

"He wrote 'with his heart's blodd' in a state of fevered tension," says Froude.

"Work is not possible for me except in a red-hot element, which wastes the life out of me."

This feverish intensity, I suspect, dictated the life, morbid mental activity, and character of Nietzsche's writings to an amazing degree. He said of himself that "an unendurable *spannung*—tension—lay upon him day and night." Some one has spoken of it as a "subterranean fire." Another phasing of this condition is shown in a letter written in that ominous year 1888:

"I have lived through so much, so much willed, and perhaps attained, that a certain power is necessary in order to get loose and away from it. The vehemence of the interior vibrations was frightful. That this was seen even from a distance may be learned from the epithets of German critics—'eccentric,' 'pathologic,' 'psychiatric,' *et hoc genus omne*."

A friend, Sandberg, writing in 1899, puts it this way:

"He wrote once that he had body and soul of such a nature that he could suffer with both at once. 'Nothing,' he said, 'tortures me more than when the fires burns me on both sides, internally and externally.'" *Die Zukunft*, No. 32.

I have elsewhere spoken of the physiologic cause of this morbidly feverish intensity of mental activity. It appears to me the inevitable irritation due to severe eyestrain. Nietzsche also thought of suicide. Nietzsche produced within twenty years sixteen volumes, all written by himself in small clear handwriting, all the result of independent philosophic and original thinking, besides several other volumes of technical philologic studies. He was moreover a busy, conscientious teacher and lecturer.

The Influence of his Disease upon his Character and Writings is everywhere painfully manifest. Nietzsche was seized with an enthusiasm for Schopenhauer and his works at the age of 21. With greater intensity his devotion to Wagner and his music, I gather, was turned to morbid dislike by the influence of diseased cerebral activity. Deussen, I feel, is in error when he writes that

"A deeper cause lay at the root of Nietzsche's resignation of his professorship in 1879 than his 'combined diseases of the nerves of his eyes, brain, and stomach.' The philologic profession of teachers, like a coat, became too small for him, etc. His internal unrest, etc."

But if so, it is an error which only extends the pathologic to the deeper activities of his mind. How far his cerebral irritation was responsible for his "aristocratic anarchy," his occasional lapses into egoistic disdain, etc., would be impossible to gauge. It surely was not wholly inoperative. Stringency, hardness, radicalism, it certainly helped to produce. Möbius thinks the *Zarathustra* would not have been written without the morbid cerebral irritation. It appears almost certain that the aphorismic form of much of his later writing is ex-

plained as the result of the manner in which he was forced to do his literary work, *i. e.*, by thinking and note-making while walking. The serious reflexes to eyes, head, and digestive system, which were induced by writing compelled him to collate these notes with the least overworking possible. Hence also result the growing contradictions and illogicalities, the discreteness and want of transitional, connecting, and modifying sentences.

A number of degenerates, Nordau especially, have written foolishly of Nietzsche's "degeneracy," his "sadism," etc. The inappropriateness of such silly charges is amusing or disgusting, according to the point of view of those conversant with Nietzsche's character and writings. The mistaken standpoint of such a critic as Möbius may be suggested by his remark that friendship in the physiologic sense is purposeless and that it rests on perverted sexual love.

Nietzsche was surely a very sick man during the twenty years of his working life, but none ever made a more heroic battle for health than he. Health, he contended, is always the basis of beauty and virtue. If his pessimism was due to his disease, one should not forget his own words:

> "I made a philosophy of my will to health and to life. The year of my greatest loss of vitality was the year in which I ceased to be a pessimist. The instinct of self-preservation forbade the philosophy of despair." (Nietzsche.)

It is but natural that the subtle and malign influences of his suffering should weave themselves into the very texture of his philosophic writings. One has said of him that a big volume could be made of excerpts from his works concerning health and sickness. In this connection one may not overlook that in the fateful year of 1888 he also wrote of the *Umwerthung aller Werthe*.

After the Attack.—When brought to Basel he weighed 165 pounds, was not neurasthenic, maniacal, or melancholic, and was without imperative ideas. Speech was permanently lost from the day of the attack, and memory nearly entirely. He seemed to understand what was read to him, and enjoyed music. There was much gaping or yawning with cramp which sometimes made him utter cries of pain. This was better after the move to Weimar. There his chief pleasure was to enjoy the view from his house, in silence and revery. Möbius makes a strenuous effort to bring the symptoms of the patient within the confines even of an atypical case of paralysis, confessing that real cases differ far more than the authorities and text-books make manifest. Especially does he acknowledge this to be true in Nietzsche's case. Professor Binswanger says important symptoms are wanting, notably the omission of letters, even in the latest writings. One feels like

smiling assent to Frau Förster-Nietzsche when she coolly says that by the term, *atypical paralysis,* nothing or not much is implied. Möbius's gratuitous assumption that syphilis was the cause of his collapse is without warrant and is contradicted by every fact of his life, character, and illness. It illustrates the tendency of ultra science to become non-science and even nonsense. That chloral, as Overbeck thought, contributed to the final breakdown seems to me extremely doubtful. Morphin he took only once, but chloral was used in large quantities prior to 1889, for the terrible sleeplessness which tormented him as it does does most eyestrain sufferers. His sister thinks chloral simply made him drunk. Is it not clear that the so-called sudden stroke in 1889 was the more noticeable effect of thirty years of cerebral insult and disease, and that the real mystery is that it had not come long previously? What takes place in the mechanics of cerebral morbid physiology, in such cases, is of course still unknown to us in any scientific sense, and we often make our ignorance more ridiculous, at least more dense, by our pathologic satisfaction with nomenclature and picture studies. From whatever point of view we look, personal, medical, social, literary, or philosophic, it is true that Nietzsche's life was both a tremendous defeat and a magnificent victory. More emphatic is the truth, however, that whether victory or defeat it was an awfully pathetic and almost an unrivalled tragedy.

ACUTE LOBAR PNEUMONIA.

AN ANALYSIS OF 486 CASES AND 100 AUTOPSIES.

BY

JOHN McCRAE, M.B., J. C. FYSHE AND W. E. AINLEY,

From the Montreal General Hospital.

PART I.

The cases here tabulated constitute undoubted cases of primary lobar pneumonia admitted to the wards of the Montreal General Hospital, from January 1st, 1895, to August 1st, 1903; the autopsy analysis has not been made as a continuation of the clinical observations, but as a distinct series, which, in many particulars, gives the truer frequency of a complication, or the higher percentage of occurrence of some detail which is difficult to observe during life.

The entry into hospital by months is tabulated, and it is worthy of remark that the weather from December 1st to March 15th, is generally steady cold; March 15th to June 1st, very changeable, with considerable rain, June 1st to October 1st, warm and dry; October and November, cool and dry. The heavy snow fall of winter melts in April, and

during that month, though bright overhead, it is scarcely ever dry underfoot.

	No. of cases.	Per cent. of cases.
January	39	8
February	55	11.3
March	56	11.5
April	74	15.2
May	80	16.4
June	33	6.8
July	26	5.4
August	15	3
September	14	2.8
October	27	5.5
November	25	5.1
December	42	8.6

The largest number of cases occurs in these changeable spring months, but as soon as summer is established, the prevalence gradually lessens throughout the whole season, only attaining a moderately high figure after the setting-in of winter. It is not improbable that wet streets have a large share in the causation of spring pneumonia, and the intense steady cold of winter a less effect than would be expected.

Sex.—348, 71.6 per cent., were males, 138, 28.4 per cent. females.

Mortality.—The deaths numbered 104, 21.2 per cent.

Whereas less than 20 per cent. of the male cases died, more than 25 per cent. of the female cases were fatal.

Age.—The ages divided into periods are given.

Age in years	No. of cases.	Per cent. of cases.	No. of deaths.	Per cent. of total deaths.	One case died in every
1 to 3	16	3.3	5	4.9	3
4 to 15	67	13.9	5	4.9	13
16 to 22	70	14.5	5	4.9	14
23 to 31	98	20.3	19	18.4	5
32 to 41	92	19.1	19	18.4	5
42 to 51	84	17.4	29	28.1	3
52 to 61	33	6.8	11	10.7	3
62 and over	22	4.5	10	9.7	2

It will be noticed that after the age of 40 the chances for recovery are gravely lessened, whereas the mortality in youths, 16-22, is a comparatively low one, although the number of cases is perhaps greater than in any other half decade. Yet as an indication of the fallacy of making a prognosis upon the youth of the patient, it may be said that the approximate average age of the cases that died was 37.7, (average of 100 autopsies, given below, 38.8), while the average age of the cases that recovered was 35.5; these two averages show much less difference than one would expect.

Etiology.—Previous attacks had occurred in 53 out of 425 cases, 12.4 per cent. or approximately one in seven, a percentage of occurrence much lower than is usually found (Osler's Practice of Medicine,

IV, Ed., p. 109); in 372 cases previous attack is noted as not having occurred. Of the 53 cases, three had had three or more previous attacks, one had had two, and the others one.

Tuberculosis.—Of 462 cases, family history of tuberculosis was present in 31, personal in 20, and nine had had previous pleurisy, a total of 60 (13%) in whom there is likelihood of tuberculosis having preceded the disease.

Race.—During the summer and autumn months a large number of immigrants pass through Montreal, and it has been a frequent comment in the hospital that a good many poorly nourished Europeans, chiefly Italians, are brought in suffering from pneumonia, shortly after landing. Of 456 cases of our series, 74, 16 per cent., were immigrants, defined as having been less than six months in the country. From the Government statistics of the numbers of immigrants, and the most careful estimate at which we can arrive of city population, this indicates that the immigrant is at the very least thrice as liable as the native.

Occupation.—We have endeavoured to ascertain what proportion of the population of Montreal is employed in out-door work, and this we find difficult, because of the great differences of conditions, due to climate, between summer and winter. Of 444 cases, 126, 28.4 per cent. were engaged in out-door work, 318, 71.6 per cent. in in-door occupations; if we allow that $\frac{1}{5}$ of the population is engaged in out-door work (this figure is probably too high), the out-door worker has suffered $1\frac{1}{2}$ times as frequently as the in-door worker; if we allow that 1-10 only of the population is so employed, the out-door worker is $3\frac{1}{2}$ times as liable. In any case our figures tend to show that the out-door worker is more frequently attacked.

The use of Alcohol.—Of 190 cases in which the records are explicit, 62, 32 per cent., were alcoholics, 92, 46 per cent., moderate users of alcohol, and 32, 19 per cent., were teetotallers. This question of the liability of alcoholics to pneumonia, is so complicated by other questions of etiology, such as poverty, irregular habits, etc., that it is impossible to set a positive value upon figures.

Influenza.—Acute influenza preceded the disease in five cases.

Catarrh.—Catarrh, defined as chronic inflammation of the upper air passages, was present in 90 cases (20.3%) in 90 per cent. of which cough was present.

Duration.—The average length of time from onset until discharge from hospital (at which time the patient is presumably able to return to work), was in 351 cases, 27.5 days.

Crisis and Lysis.— 226, 60 per cent., ended by crisis, 106, 28 per

cent. by lysis. In 48 cases (12%) the fall of temperature was atypical. The fatal cases have, of course, been excluded from this calculation.

Of 211 cases in which the precise time could be determined, crisis occurred after the lapse of 7.1 days; in 106 cases of fall by lysis, the fall of temperature began after the lapse of 8.4 days; the cases of early crisis are not sufficiently authentic to state. Delayed resolution was found in nine cases, 1.9 per cent.

FEVER.—The height of the fever is classified below:—

		No. of cases.	Per cent. of cases.
Low	99 to 102°	81	17
Moderate	102 to 104°	245	52
High	104° and over	146	31

ONSET.—It has been noted above that 90 cases had previous catarrhal symptoms, 72 of these having cough. Of the usual symptoms of onset, the frequency was as follows:—

Cough (including cases with cough previously)	100%
Pain	92.1%
Chilly sensations	70%
Vomiting	35%
Rigor	6.1%

The pain was never referred to a region other than the seat of disease.

SYMPTOMS.—Respiratory system. Rusty sputum was present in 195 cases out of 434, 44.9 per cent., bloody sputum in seven cases and dilated alæ nasi in 190, 40 per cent.

NERVOUS SYSTEM.—The border line between delirium and mania is not a distinct one:—

Headache in	437 cases	184 times	42%
Delirium in	447 cases	157 times	35%
Mania in	447 cases	8 times	1.8%
Convulsions in	447 cases	8 times	1.8%

The cases of delirium were analyzed with respect to an alcoholic history: 93 cases, 59.2 per cent., occurred in non-alcoholics; 64 cases, 40.8 per cent. occurred in alcoholics. Of 62 heavy drinkers, 37 cases, 59.6 per cent. were delirious; of 92 moderate drinkers, 27 cases, 29.3 per cent. were delirious; of 154 users of alcohol, 64 cases, 41.5 per cent. were delirious.

All the cases of convulsions mentioned above occurred in children with the exception of one, a girl of twenty-five, non-pregnant, who recovered without apparent complication.

ALIMENTARY SYSTEM.—The condition of the bowels, if at all disturbed, has tended towards constipation.

Of 460 cases the bowels were normal in 242, 57 per cent.; diarrhœic in 55, 12 per cent.; constipated in 143, 31 per cent.

Jaundice is remarkably infrequent in this series, having occurred in 465 cases but 18 times, a frequency of 3.8 per cent.

The Urine.—In view of the likelihood that every case of pneumonia is attended with a temporary kidney damage, it is interesting to note that this does not appear in the routine examination of the urine. Of 450 cases albumen was found in 22 per cent., casts in 1.5 per cent., both together in 25.7 per cent.; pus, dependent, in all likelihood, upon associated conditions, was present in 6.6 per cent.

Quantitative examination of the chlorides has been made in a disappointingly small number of cases; of 16, four showed normal, three increased, and 9, 56 per cent., decreased excretion of chlorides. Examination of the sediments, though tabulated in more than 100 cases, does not seem to be of sufficient value to merit reproduction.

Various.—Sweating, sufficiently profuse to be recorded, exclusive of the sweating of crisis, was found in 139 out of 434 cases, a frequency of 32 per cent. Herpes was present 124 times in 475 cases, 26.1 per cent; epistaxis occurred 12 times, 2.5 per cent; the spleen was found to be enlarged in 30 cases, 6.4 per cent.; the liver in three cases, excluding chronic cirrhoses. Erythema occurred twice, and a petechial rash once.

Vascular System.—From stated measurements which we have gone over in 465 cases, it was determined that definite cardiac dilatation was present in 85 cases, 18 per cent.; this, no doubt, marks the number of extreme dilatations, and entirely fails to include the slight right-sided dilatation that must accompany every case of pneumonia with large involvement of lung. Considering the difficulty of observing slight degrees of dilatation at autopsy (see below), it is not strange that they should not be observed in life while the chest-wall intervenes. That cyanosis is noted in 15 per cent. of all cases, and accentuated pulmonary second sound in 16 per cent., implies failures to record these almost invariably present signs.

Leucocytosis.—Considering 7,500 as normal, leucocytosis occurred in 43 out of 45 cases, 95.5 per cent.; 32 cases that recovered showed figures varying from 8,400 to 34,000, average 22,000; 11 cases that died varied between 9,800 and 50,000, and averaged exactly the same, viz., 22,000. Of these 11 deaths it should be mentioned that five cases had severe septic complications, which would, in every case, naturally lead to leucocytosis.

Distribution of Disease.—Of 473 cases the involvement was as follows:—

Right lung only..	226	48%
Left lung only..	141	30%
Both lungs..	106	22%

31 per cent. of bilateral cases died, 15 per cent. of the left lung cases, and 21 per cent. of those in which the right lung was affected. In five cases all lobes were affected, and 2, 40 per cent., recovered. It is a coincidence that the number of cases in which three or more lobes were involved, was 104, exactly the number of deaths in the series.

One lobe was affected in....	190 cases	40.1%
Two lobes were affected in..	179 cases	38%
Three lobes were affected in..	94 cases	20%
Four lobes were affected in..	5 cases	1%
Five lobes were affected in..	5 cases	1%

The most frequent involvements were as follows (473 cases):—

		Clin. Ser.	Autopsy Ser.
Lower left....	81	17%	5%
Lower right..	67	14%	7%
Middle and lower right..	53	11%	4%
Whole left..	46	10%	17%
Whole right..	44	9%	18%
Upper and middle right..	25	5%	2%
Both lower....	25	5%	3%
Upper right....	22	5%	5%
Whole left and lower right....	16	3%	2%
Lower left and middle and lower right..	15	3%	3%
Upper left..	14	3%	4%

No other lobe or combination of lobes was involved as often as ten times in the series. The mortality for three lobes or more was 46.1 per cent.

If anyone should be interested in the frequency of any given combination of lobes, we append our full figures, asking the forbearance of the general reader for the following table:—

	Clin. Series.	Autopsy Series.
Lower left and upper and lower right....	1.6%	5%
Whole right and lower left..	1.2%	3%
Upper left and upper right..	1.2%	1%
Whole of both lungs..	1%	1%
Lower left and upper right..	1%	0—
Whole left and lower and middle right..	.6%	0—
Upper left and upper and middle right....	.6%	1%
Upper left and lower right..	.6%	2%
Whole left and upper right..	.4%	0—
Whole right and upper left..	.4%	3%
Upper left and middle and lower right....	.4%	0—
Lower left and middle and upper right..	.4%	1%
Whole left and upper and lower right..	.2%	3%
Whole left and upper and middle right..	.2%	0—
Lower left and middle right..	.2%	2%
Upper left and upper and lower right..	.0—	1%
Middle right..	.2%	0—
Upper and lower right..	1.6%	0—

It will be observed that there is little or no correspondence between the figures of the two series, a fact which is to be explained by the comparative rarity of all these combinations.

In the autopsy series, the lobes have been involved in the following

order of frequency, beginning with the one most often attacked; lower right, upper right, lower left, middle right, upper left.

As to how far the prognosis is based upon the extent of lung tissue involved, we may state the following: in the clinical series 22 per cent. had three lobes or more involved (mortality of these cases 46.1 per cent.), and in the autopsy series, 41 per cent. had this involvement, which figures, so far as they go, tend to show that prognosis is in some degree to be based upon the amount of lung tissue implicated.

TREATMENT.—The methods of treatment are very variable, and have been tabulated without any comment. In 40 there was practically no treatment. Hydrotherapy (baths) was used in 45 cases, all within the last two years; expectorants were given in a third of the cases, medicinal analgesics (morphia, heroin, coal-tar products, etc) in 1-10 of the cases; ice and heat were used in $\frac{1}{4}$ of the cases, stimulants in three quarters; venesection was practised in only one case. The above really indicates a prevailing tendency throughout the series towards a symptomatic treatment with ready recourse to stimulants.

Complications.	No. of cases.	Per cent. of cases.
Pleuritis	163	34.3
Meningitis	23	4.7 (8 cases proved by autopsy.)
Otitis media	19	4.1
Empyema	18	3.8
Emphysema	28	6
Ac. endocarditis	14	3
Ac. pericarditis	16	3.4
Myocarditis	11	2.3
Thromboses	4	
Saphenous	2	
Cerebral	1	
Sup. long sinus	1	
Tonsillitis	6	
Parotitis	4	
Erysipelas	4	
Peritonitis	3	
Abscess (of back)	1	

Associated conditions.	No. of cases.	Per Cent. of cases.
Arterio-sclerosis	39	8.3%
Cardiac valvular defect	32	6.8%
Mitral stenosis	2	
Mitral regurgitation	19	
Tricuspid regurgitation	1	
Anæmia	8	
Angina pectoris	1	
Paralyses	6	
Aphonia	3	
Facial	1	
Third Nerve	1	
Paraplegia	1	
Neuralgia	2	
Facial	1	
Sciatic	1	
Epilepsy	1	
Cirrhosis liver	5	

Pregnancy	5 (abortion in 4.)
Nephric abscess	2
Orchitis	1
Gonorrhœa	1
Syphilis	2
Malaria	2
Typhoid	2
Measles	2
Rheumatism, Chronic (sic)	4
Rickets	2

We have purposely refrained from comment upon these complications, because we feel that in many cases such as pleuritis, empyema, etc., the autopsy findings are distinctly more valuable. One cannot be sure that the so-called complications are really such, or should more properly be included in associated conditions. At the same time we have not felt justified in omitting them from a strictly statistical article.

Part II.—Analysis of 100 Autopsies.

The autopsies are partly comprised in the cases analyzed from the wards, but to complete the number it was necessary to go back as far as the record of 1890; so that for purposes of comparison the two series are essentially different. All the cases are selected with a view to the exclusion of those in which the pneumonia could be considered secondary to any other disease; by which carefulness one doubtless rejects many cases which are true lobar primary pneumonias, which occur in those slightly debilitated by some other cause; so that the series is really a synopsis of cases of pneumonia arising in the comparatively healthy. It is obvious that one must not rule out cases past middle life with marked kidney change, or else the search for cases would be interminable. The numbers throughout designate percentages, as well as numbers of cases; in many cases comparisons are instituted between these figures and the figures of the same conditions obtained by clinical observation.

Sex.—77 cases were males, and 23 females.

Age.—The average age of these cases was 38.8 years. The average age of all the cases in the previous series was 31 years.

Age by periods.	Autopsy series.	Clinical series.
1 to 3	3%	4.9%
4 to 15	1%	4.9%
16 to 22	6%	4.9%
23 to 31	17%	18.4%
32 to 41	26%	18.4%
42 to 51	28%	28.1%
52 to 61	11%	10.7%
62 and over	8%	9.7%

It is to be noted that there is a striking similarity in the percentages, especially after the age of 15, when the number of cases in each period becomes at all considerable.

INVOLVEMENT OF LUNG:—

	Autopsy series.	Clinical series.
Right lung	43%	48%
Left lung	26%	30%
Both lungs	31%	22%
Involvement of		
5 lobes	1%	1%
4 lobes	9%	1%
3 lobes	31%	20%
2 lobes	38%	38%
1 lobe	21%	40%

The conclusion derived from this comparison is, that the amount of lung tissue involved has a very direct bearing upon prognosis, since so comparatively few one lobe cases, and so many three and four lobe cases appear in the autopsy records.

STAGE OF DISEASE.—Of the cases in which the color of the lung is mentioned, red hepatization was present in 23 per cent., grey in 55 per cent. This indicates roughly that in a majority of cases the lung is grey in colour, due oftener at autopsy to purulent infiltration than to a true grey hepatization, which we are accustomed to think of as a first stage in resolution. It might be said in this connection that the classic division of pneumonia into stages, has misled and will continue to mislead many into the supposition that these are hard and fast sequences following a rule, rather than hazy indications of the progress of the disease, which in most cases encroach upon one another so greatly as to lose their individual characters.

INFECTION.—Of about 60 cases in which bacteriological examination has been made, pneumococcus was present in 65 per cent., in five per cent. of which it was mixed with other organisms to the extent of being a "mixed infection"; 20 per cent. were mixed infections of other kinds, while streptococcus was the main agent in eight per cent. While dealing with the kinds of infection, it is of interest to note the effect of the different ones upon the size of the spleen. The late Dr. Wyatt Johnston on one occasion remarked that he had observed that the spleen was rarely enlarged in cases of infection by pneumococcus, while it was frequently enlarged in other infections. With a view to determining this, we have tabulated the results as follows:—

In 23 cases infected by pneumococcus alone, the spleen was not enlarged in 19, 83 per cent., and was enlarged in 4, 17 per cent.; in 12 cases of mixed infection, without pneumococcus, it was not enlarged in 4, 33 per cent., and was enlarged in 8, 66 per cent. Of six cases of mixed infection including pneumococcus, it was enlarged in three and not enlarged in three. Whatever the size of the spleen (180 grms. in the male adult was the standard), it was in the large majority of cases (64%) soft and pulpy. As far as these figures go, the truth of Dr. Johnston's observation is strongly supported.

Complications and Associated Conditions.—The relative frequency of certain complications in the two series is of interest; the discrepancies which will be seen to exist in pleuritis and pericarditis will be easily understood, when one remembers the comparatively short time in which a friction rub may be present, and the small amount of fluid which is effused in many cases. The second column exists only for comparative purposes.

		Clinical series for comparison.
Pleuritis, total	91%	38%
Pleuritis, purulent ("empyema")	12%	
Pleuritis, serous ("effusion")	28%	
Pleuritis, fibrinous	51%	
Pericarditis, total	17%	3.4%
Pericarditis, purulent	10%	
Pericarditis, fibrinous and sero fibrinous	7%	
Endocarditis, acute	8%	3%
Endocarditis, chronic (Assoc. condition)	23%	
Myocarditis, acute	4%	2.3%
Myocarditis, chronic (Assoc. condition)	8%	
Arterio-sclerosis, extreme (Assoc. condition)	8%	
Dilatation of right heart	18%	18%
Dilatation of left heart	10%	
Clots in heart chambers	42%	
Meningitis, purulent	5%	4.7%
Bronchitis, acute	61%	
Bronchitis, chronic (Assoc. condition)	6%	
Nephritis, total	78%	
Nephritis, acute parenchymatous (cloudy swelling)	45%	49%
Nephritis, acute, suppurative	1%	
Nephritis, chronic	32%	

Of the cases of pericarditis, seven occurred with involvement of both lungs, four of the left and five of the right lung, supporting the frequency of occurrence with disease of the left lung.

Of the five cases of meningitis, pneumococcus was found in the meninges in four; it also was found in one case of ulcerative endocarditis upon the heart valves, and in four cases of septic pericarditis.

Seven cases of abscess of the lung occurred and one case of abscess of the abdominal wall; mediastinitis occurred twice, peritonitis once; icterus was noted but once and tuberculosis, obsolete, or obsolescent, eight times.

Special interest attaches to the following points in this series:—

1. The liability of immigrants to the disease.

2. The frequency with which people of out-door occupations are attacked.

3. The infrequency of the rigor of onset.

4. The non-enlargement of the spleen in most cases of pneumococcus infection.

The apparently awkward divisions of the age tables may be better understood if we explain that a patient is classified in the column *in which belongs the figure he states as his age in years.*

TOXIC AMBLYOPIA CAUSED BY METHYL ALCOHOL.

BY

FRANK BULLER, M.D.

Ophthalmic Surgeon to the Royal Victoria Hospital, Montreal.

Toxic amblyopia caused by the ingestion of methyl alcohol, appears to have been first mentioned by Viger in 1877, and in 1879 Mengin called attention to the same subject apparently as a further report on the same case. Knies, in his well-known work published in 1895, barely mentions the subject, and in the same year Casey Wood, in his monograph on the Toxic Amblyopias, states that there were several well authenticated cases in which "vision has been affected by indulgence in this strong-smelling liquid," but he only makes definite mention of Mengin's (Viger's) case.

According to DeSchweinitz the first case reported in America was in 1896 by J. M. Ray, of Louisville, Ky. Since then the literature of this subject has become quite extensive and has disclosed much difference of opinion as to the pathology of this, now from a clinical standpoint, well recognized form of toxic amblyopia.

Curiously enough, in spite of the many cases now on record, with similar history and presenting almost identical clinical pictures, there are still some well informed ophthalmologists unconvinced as to the part played by methyl alcohol in bringing about loss of vision in the cases reported. I need not discuss the possible reason for this curious unwillingness to accept obvious facts, the same unreasonable reasoning is singularly liable to occur in every controversy between members of the medical profession, in which public interests are at stake, or in which the general public is in any way involved.

The question of tobacco amblyopia was for a long time disputed in the same way, and has only been settled by accumulated experience, just as this must be. One great difficulty in the way of carrying conviction to the minds of unbelievers is that of obtaining a sufficient number of pure, or unmixed cases, so straight in every particular that deductions drawn from them are beyond dispute. This happened in the case of tobacco amblyopia until accumulated evidence from year to year finally compelled a general recognition of it as a reality about which, as a genuine toxic effect, there can remain no longer a shadow of doubt.

The pathogenesis of toxic amblyopia presents many points of interest which at the present time cannot be regarded as definitely settled; in most of them the primary lesion seems to have been a local one in the optic nerves, or in some of the structures of the eyeball, rather than a

series of changes induced in the nerve centres. In two of the most typical forms, viz.: tobacco and quinine amblyopia, the changes are certainly of a strictly local character and sufficiently pronounced to account for all the visual defect. I mention these two in particular because the visual disturbance in both has been attributed by some observers to primary changes in the optic nerve and by others to intra-ocular changes involving chiefly the retina in the region of the macula lutea and leading to secondary changes in the optic nerves. However this may be, there is one remarkable difference which shows that the two processes involving, as they undoubtedly do, both optic nerve and retina, produce their effects in an entirely different, I may say in an exactly opposite manner. The chief characteristic of tobacco amblyopia being a central scotoma, whilst that of quinine is loss of peripheral, with preservation of distinct central vision.

As already stated the pathogenesis of wood alcohol blindness is still a matter of dispute; one side contending that the primary lesion is in the retro-bulbar portion of the optic nerve, the other that it is in the macular region of the retina. A brief summary of the arguments as given by DeSchweinitz is about as follows:—

In 1896 Rymowitsch observed fatty degeneration of the ganglion cells, varicose hypertrophy of the nerve fibres and œdema of the nuclear layers in rabbits poisoned by methyl alcohol. Ward Holden and Birch-Hirschfeld believe that they have experimentally shown the amblyopia of methyl alcohol depends on nutritive changes in the ganglion cells of the retina, such as degeneration of the ganglion cells, breaking down of the chromatic bodies, development of vacuoles, shrinking of cell nucleus, and finally destruction of the cell body. Both these observers also found changes in the optic nerve which they regarded as secondary to the ganglion cell alteration. Birch-Hirschfeld admits the similarity of the nerve lesions to that which has been found in ordinary ethyl alcohol amblyopia. Gifford holds that the orbital pain and ophthalmoscopic evidences of positive neuritis met with in some cases, together with complete blindness followed by a temporary improvement, indicate a primary affection of the optic nerve. Hotz, who has seen optic neuritis in this affection, considers that if the primary effect were, to destroy the central nerve elements of the retina a partial recovery followed by a second lapse of visual acuity would not be likely to occur, but that this would be the natural sequence of a nerve lesion of an inflammatory type, the effusion at first clearing away with relief to the compression of nerve fibres, then follows renewed pressure on these with the advent of atrophic changes. Gifford noticed total absence of retinal changes, as seen by the ophthalmoscope, a few hours after the

blindness had come on, and holds this to be proof that the primary lesion is not in the retina. On the other hand, DeSchweinitz states that in animals experimented on with methyl alcohol, its toxic action is first upon the ganglion cells of the retina and that the optic nerve changes are secondary.

Notwithstanding all this, the early and often complete loss of vision can scarcely be regarded in any other way than as positive proof of profound disturbance in the optic nerves and the subsequent rapid alterations in the vision without visible ophthalmoscopic changes in the fundus seem to point in the same direction. There are changes in the optic nerves in my third case, which indicate a retro-bulbar neuritis at an early period, but nothing that would justify the assumption of pathological alterations in the region of the macula-lutea.

The symptoms of this toxæmia are not by any means always the same, modified as they may be by innumerable collateral circumstances. Gastro-intestinal disturbances is one of the most common symptoms and may be intense. With large doses this is followed by intense headache, giddiness, and sometimes coma. Rapid failure of sight, often becoming complete, but returning again for a time and soon relapsing, is the most characteristic symptom. Contracted visual fields are the rule, as well as central scotoma; the latter being usually found absolute if carefully sought for. The ocular disturbance is symmetrical and the blindness often total, for a time at least. Great variations in visual acuity occur before the conditions settle down into progressive and permanent atrophy. Ophthalmoscopic signs are variable. Blurring of the edges of the discs, and in some cases cloudiness of the retina; positive optic neuritis, and complete atrophy without signs of antecedent inflammation, are the more important changes so far observed. Retinal vessels sometimes are diminished in calibre and sometimes normal. Pain on moving the eyes and pressing them backwards has been noticed in some cases.

The quantity of wood alcohol necessary to induce this toxæmia is also variable. Estimated quantities have been all the way from two to eight ounces, but even 5½ drachms have produced headache, nausea and vomiting. In one case two doses estimated at two ounces each at an interval of twelve hours, caused death a few hours after the second dose. An interesting series of cases occurring in one household, is reported in the Transactions of the American Ophthalmological Society for 1902, by H. W. Ring, of New Haven, Conn. Seven persons in all were affected, two of whom died; four suffered more or less loss of vision, and one, who took the least quantity, only slight gastric disturbance.

It is with the object of pointing out the dangers of this drug now

come into such common use, that I call the attention of this Society to the subject, and in so doing place upon record three additional cases that have come under my own observation.

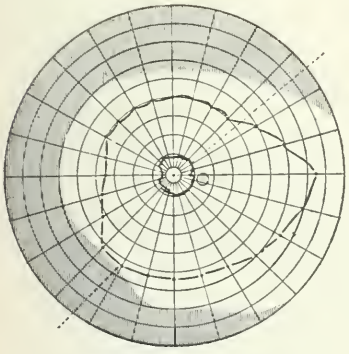
Case I. Mrs. P., æt. 34, widow, by occupation dressmaker, residing in the State of New York, was admitted to the Royal Victoria Hospital on the 6th of May, 1902, with the following history:—

Was married at the age of 23, two years afterwards her husband died, had no family; general health always fairly good, but for the past eight or nine years has worked very hard at her trade, subject to insomnia as well as some sort of nervous attacks not of a character to interfere with her work. Never had any visual trouble up to the time of taking by mistake a large dose of wood spirit containing wintergreen and intended for use as a liniment in rheumatism. The quantity, as near as she could estimate, was less than half a tumblerful.

The facts with regard to taking this dose, as far as she remembered, were these:—Some time in February, 1902, she came home one afternoon fatigued by a long walk in a snow-storm and found her aged mother very ill; this caused her to feel nervous and distressed. After attending to her mother she took a vapour bath and in the dim light towards evening drank by mistake about a wineglass of the preparation just mentioned, instead of a dose of Hood's Sarsaparilla, which she had been in the habit of taking from time to time. Shortly afterwards she fell asleep and at the end of two hours awoke feeling very ill, with intense headache and, to her great dismay, quite blind. This total blindness lasted some two weeks, then vision gradually returned and has been as at present for several weeks.

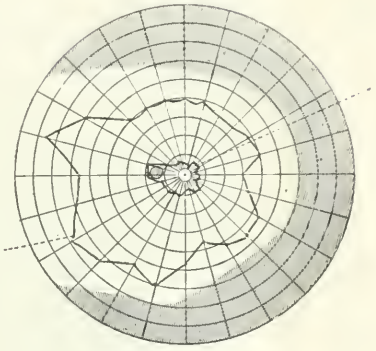
The notes as to her general condition on admission state that she was a medium sized woman, well nourished and apparently in good general health, all the functions being normal, with no evidence of organic disease, except the blindness and certain visible changes in the optic nerve. Vision reduced to fingers at 3 feet in each eye in good daylight, thinks she sees rather better in a somewhat subdued light; refractive media normal; emetropic or very nearly so; pupils about 5 mm. in ordinary daylight, react sluggishly in focal illumination, normally in convergence; no ophthalmoscopic changes in choroid or retina, except diminished size of the blood vessels associated with an advanced atrophy of the optic papillæ, exactly alike in both eyes. The visual fields, as shown by the accompanying chart exhibit very little restriction of the field for white, but there is a small complete central scotoma for all colours. Apart from this the fields for red and blue are

nearly normal, but has not perception for green at all, not even when large squares of this colour are used.



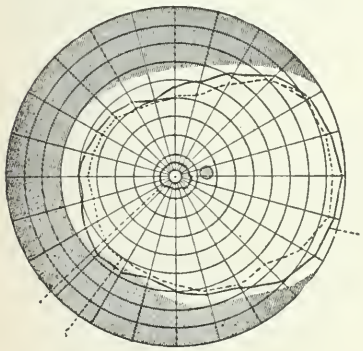
CASE I.

FIG. 1. Large broken line, field for blue, inner continuous line shows scotoma in right eye upon admission.



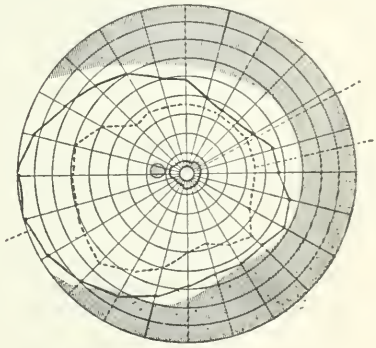
CASE I.

FIG. 2. Large broken line, field for blue, inner continuous line shows scotoma in left eye upon admission.



CASE I.

FIG. 3. Outer line shows field for white, inner dotted line red. Central area, total scotoma; green absent—right eye.



CASE I.

FIG. 4. Outer line shows field for white, inner dotted line red. Central area, total scotoma; green absent—left eye.

This patient was kept under observation in the hospital for two months; treatment by pilocarpine hypodermically, strychnia ditto, and iodide of potassium internally yielded no results whatever and there was not a vestige of even temporary improvement after amyl nitrite inhalations. Vision was no better and no worse when discharged from hospital on July 6th. I have recently been informed that her condition remains about the same.

Case II. Dr. Byers kindly examined this patient for me and sent in the following report together with charts of the visual field.

F. W., æt. 39; a barber, came for advice on October 22nd, 1903, and gave the following history:—

In the spring of 1903, the patient, on account of some slight ailment, was taking some medicine, which he kept in a cupboard. On March 9th, after finishing work, he put the light out in his shop, and by dim illumination from another room took "about a wineglassful" of what he thought was his medicine, but which proved afterwards to be "wood spirit" placed there by some other person as a practical joke or with malevolent intention.

After taking the draught he felt no symptoms whatever until the following morning, when the head began to ache and the eyes to blur. On going to his shop, a man told him he was looking ill, and he found vision so poor that he was unable to do his work. The patient then went home with headache and blurred sight. During the next three or four days, the acuity of vision varied greatly, being at times comparatively clear, at others, clouded, as if by a dense fog. At the end of this period, he went "stone blind" for eight or ten days. He then began to see, first with the outside corner of the left eye, and two days later, out of the same quarter of the right eye. Gradually his distant vision became as good as ever, and he could see to thread a needle. About the middle of April, work was resumed, but somewhere between May 1st and May 10th the sight began again to fail. Dimness of vision increased till about two months ago (August 22nd) since which time both eyes have recovered somewhat, the right more so than the left.

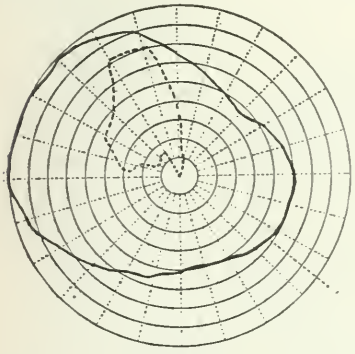
Present condition: Married 18 or 19 years; no specific history; pupils equal; right reacts promptly and well to light; left incompletely and rather sluggishly. The eyes are sensitive to light and have been so ever since taking the wood spirit. He says even during the time that he was completely blind a lamp held before his eyes pained him enough to make its presence known, although he was absolutely unable to see the outline or colour of the flame.

R. V.—fingers at 8 feet, eccentrically with the nasal side of the retina; L. V.—fingers at 3 feet, with the nasal side of the retina.

The ophthalmoscopic picture is that of a primary optic atrophy; both optic discs extremely pale, the left a little more so than the right; laminæ cribrose clearly exposed. Macular areas normal; slight stripping of the retina about the optic discs Very faint lines of exudate in places along the arteries which are slightly sclerosed.

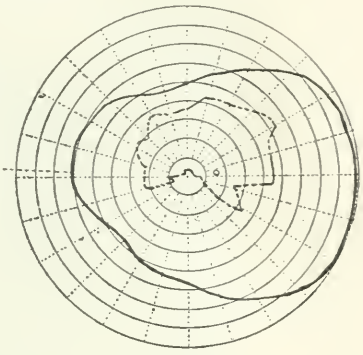
The accompanying fields of vision show the extent to which the peripheral vision is affected, and also the disturbance of the colour sense. On the left side, white only is perceived within the limited area indi-

cated; on the right side the sense of green only is lost, the other colours—blue, red and yellow—being mostly restricted in the order named. Dr. Ridley Mackenzie examined the urine with negative results, and found nothing abnormal in the general condition of the patient, apart from evidences of an old right-sided pleurisy.



CASE II.

FIG. 1. Dotted line shows field of vision remaining in left eye; continuous line shows normal field.



CASE II.

FIG. 2. Dotted line shows field of vision remaining in right eye; continuous line shows normal field.

CASE II.

FIG. 3. Dotted line shows field for white, two small continuous areas show field for blue.

CASE II.

Fig. 4. Inner continuous line shows field for white. Large dotted line, yellow, small dotted line red, x x line, blue.

This patient could not remain in town for treatment, and was sent home with a letter to his family physician recommending a course of strychnine injections. Recently, slight improvement in vision was reported, under this treatment.

Case III. Geo. C., æt. 42, carpenter by trade, came to me on November 15th last, on account of defective vision and was admitted to the Royal Victoria Hospital the same day. He has always enjoyed good

health; no evidence of constitutional disease of any sort; heart, lungs, and renal organs normal in their functions; appetite and digestion good. Four months ago was struck on the head with an axe and was rendered unconscious for a short time but soon recovered and felt no ill effects from the accident since.

Early in November he spent a few days in a lumbering camp in the Adirondack Mountains. On Saturday morning, November 7th, took a drink of what he supposed to be ordinary alcohol, about a small wine-glassful he thinks. This was repeated in the evening and also on Sunday morning, three doses in all. Hunted as usual on Sunday and felt no ill effects, but on Monday rowed with a comrade about fifteen miles on the way home. During this journey he noticed a curious mistiness before the eyes, and the trunks of trees on the lake shore looked flat instead of rounded. Daylight was waning when they landed and by that time he had great difficulty in seeing the things that were to be taken out of the boat, though his companion had none, and, on walking home, a couple of miles, could scarcely see to guide himself. He arrived home with a splitting headache which lasted about an hour, after which he fell asleep and on awakening the following morning found himself entirely blind. He was seen that morning by a doctor who gave him some medicine. By Wednesday evening there was some return of vision so that he could distinguish people moving about. This improvement continued very slowly up to the time he came to see me on November 15th.

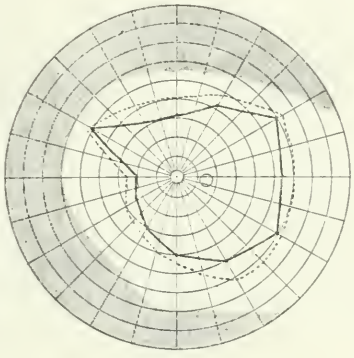
Vision tested in good daylight showed ability to count fingers at about two feet distance with either eye; pupils somewhat dilated and reacting to light rather sluggishly; media clear and refraction emmetrophic. Slight pallor of papillæ, vessels about normal; retina at fundus decidedly cloudy, especially above and below the optic nerve entrance. Beyond this slight cloudiness of retina; the macular region showed no deviation whatever from the normal.

I made a chart of the visual field of one eye which indicated a considerable area of great dimness but no complete defect, except a small central scotoma for all colours.

I sent for a specimen of the alcohol this man had consumed and received a small vial of clear liquid having all the characteristics of wood alcohol. This, together with the characteristic subsequent attack of blindness I think established the diagnosis. The comparatively long interval between taking the stuff and the occurrence of visual disturbance is decidedly unusual; at the same time it must be borne in mind that the attack was in no respect so violent as in many of the recorded cases. The patient being in good health and pursuing an invigorating

outdoor life no doubt possessed much greater powers of resistance, which only gave out after repeated doses followed by considerable physical exertion, so that the depressing effect came on later and less forcibly than usual.

The patient was treated in hospital for three weeks, rest in bed, mercurial inunctions and hypodermic injections of pilocarpine were the



CASE III.

Dotted line shows field for red; continuous line, field for green; no scotoma.

chief measures employed. When discharged on December 7th, vision had improved to 6-22 Rt., 6-27 L., and the central scotoma had disappeared. The fields for red and green are shown by the accompanying chart.

He himself is conscious of a vast improvement in the condition of vision. This, together with the almost normal condition of fundus, justifies the expectation that the improvement will be progressive and permanent.

The three cases I have had the opportunity of observing, all within the past eighteen months, indicate that the affection is by no means uncommon. They may all three be classed as pure cases, for, although the first one took the alcohol mixed with wintergreen, there is no reason to believe the ingestion of wintergreen of itself ever produces any such results. In the other two, wood alcohol alone was the toxic material consumed. They may therefore be useful as a further demonstration of the toxic effects this drug undoubtedly possesses, when taken in any considerable quantity, upon the organs of vision. It is time the public be better informed as to the dangers of drinking wood alcohol, or even working with materials, such as varnish, largely containing it, since its vapour alone has been found capable of exerting the same toxic effect. Probably very few persons realize how exten-

sively this substance is used in many trades and manufactures, giving the ignorant public, who evidently think there is no such thing as bad alcohol, many opportunities to commit the fearful mistake of using wood spirit as a beverage. This is more likely to occur since a less repulsive article, known as Columbia Spirit, has come largely into use. Its poisonous qualities, though perhaps not so virulent as the coarser varieties of wood spirit, are still sufficiently great to render it extremely dangerous, and in my opinion, to demand the use of a caution label on every bottle or package of it sold.

Knowing, as we do, that not very large doses may have a fatal effect, this substance might, if labelled "poison," be used too conveniently by persons possessed of suicidal tendencies; probably, therefore, a label stating that "*this liquid taken internally is likely to cause blindness,*" might have a sufficiently deterrent effect. Unquestionably a general knowledge of the fact that wood spirit cannot be used as a beverage without serious danger would prevent many an unfortunate from suffering the greatest of all calamities, *to wit,* irreparable loss of vision.

The original communication by Dr. George M. Gould, in this issue, upon the ill health of Friederich Nietzsche, adds another to his series of studies on the influence of eye-strain upon civilization. The value of these studies is literary and philosophic as much as scientific. It is probable that the association between ocular conditions and the mental and physical states of such men as Parkman, Carlyle, Wagner, De Quincey, Darwin, Huxley, Spenser, Browning, Whittier, and Nietzsche cannot be demonstrated to a scientific certainty, nor could be, even if these illustrious sufferers were to rise from the dead. Yet Dr. Gould's studies are full of suggestion and interest and deserve careful reading, if only for their literary and philosophical value.

The thirty-third annual dinner of the Medical Faculty of Bishop's College was held at the Place Viger Hotel on the 3rd December, Mr. C. F. Crutchlow presided and about a hundred persons sat down. After the toast of the King, Dr. George Hall proposed "Alma Mater," and it was responded to by Rev. Mr. Abbott-Smith. Mr. T. E. Donnelly propesed the "Dean and Professors," and it was responded to by Dr. F. W. Campbell. The dean spoke in his best vein and he received a most cordial reception. The toast of "Sister Universities" was proposed by Mr. J. J. McGovern, and was responded to by the various representatives. Dr. G. E. Armstrong and Lt.-Col. Burland replied to the toast of "Our Guests," which Dr. Macphail had proposed.

THE

Montreal Medical Journal.

A Monthly Record of the Progress of Medical and Surgical Science.

EDITED BY

JAMES STEWART, GEO. E. ARMSTRONG
A. D. BLACKADER, J. GEORGE ADAMI,
G. GORDON CAMPBELL, WILLIAM GARDNER
FRANK BULLER, F. G. FINLEY,
H. A. LAFLEUR, F. J. SHEPHERD,

ANDREW MACPHAIL, Managing Editor.

WITH THE COLLABORATION OF

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KENNETH CAMERON W. F. HAMILTON, C. W. WILSON,
J. C. CAMERON F. A. L. LOCKHART. C. H. BROWN

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DENTISTRY AND MEDICINE.

An application received recently from the Dental Association of the Province asking that McGill University consider the means whereby that University could afford teaching to the dental students of the province, is still, we hear, *sub judice*. It, however, raises so many important considerations that we feel justified in considering the general subject of the education of dental students and the relationship of dentistry to medicine.

It would be needless and would serve no useful end to gloss over the fact that not merely the members of our profession, but the community in general, regard the dentist as on a distinctly lower plane than the medical man, be he a specialist in any branch of medicine, however limited. The main reason upon which this view appears to be based is that the work of the dentist is very largely mechanical, consisting mainly in excavating cavities in the teeth and filling them with metal, in replacing teeth that are lost, or removed, by false teeth which are

bought wholesale; at the highest it is taken to embrace the performance of delicate and elaborate crown and bridge work. Even at its best, it is felt that this work is of a mechanical nature and we are apt to consider that, in the main, dentistry is an art rather than a science. But a reason, almost equally potent, is that the education of the ordinary dentist has been very largely practical, that his general knowledge of the principles of medicine and his general culture have been and continue to be below the standard demanded from those entering the medical profession.

Is this a right view to take of dentistry and the dental profession? We have no hesitation in saying that we consider that it is correct so far as it refers to the ordinary dental practitioner of the present day. On the other hand, it is incorrect as regards the leaders of that profession while it does not take into account the possibilities of what that profession may become under right guidance. Certainly the leaders in the dental profession consider it wholly unjust and they, nowadays, have themselves undergone such a course of education and have developed so scientific a study and treatment of their subject as to demonstrate to us that, whatever may be true of the general run of dental practitioners, their subject is capable of being placed upon a much higher level and, to their credit, it must be said that in every civilized country the dentists as a body are seeking to attain to this higher level. The evolution of the complete dentist and his assumption of a proper position in the community, is following exactly along the lines traced in the evolution of the modern surgeon. We are apt to forget that, not much above a hundred years ago, the surgeon and, let us add, the general practitioner, or apothecary, occupied in the community a position, if anything inferior to that occupied by the dentist of the present day. A century before that, his status was even lower; he ranked with the barbers and blood-letters. The physician who had had a university education was the only member of the profession who, speaking generally, had social rank and influence. The surgeon was supposed to need purely a practical education, to be purely a specialized mechanic. It is difficult, as we say, to realize this, but so it was. There were, even in those days, leading and influential surgeons just as, in these days, there are leading and influential dentists in our community, but, as a body, surgeons were regarded as of an inferior order. With a recognition of the possibilities of surgical development all this has altered; the same high standard of education has been demanded from surgeon and physician alike, and, nowadays, the consultant surgeon takes, in popular estimation, identically the same position as does the consultant physician, even if, in his heart of hearts, and with an historical memory, the physician hugs the comforting belief that he is somewhat the superior.

Now the same course of events is in progress with regard to the dentists. Give the dental student the same university and general education as has the ordinary medical student, make of him a specialist who has had a broad general medical education and, not only will his individual capacity be raised and will he elevate his subject into a definite science, but, coincidently, his position in the community will be improved. It is for us to recognize this general tendency and to afford to the dental student such an education as shall raise him to a higher, more self-respecting and more respected status, and this for the benefit of the community at large as for his own sake. The question is, how is this to be done?

We have before us already certain examples. In the United States the tendency has been to establish separate dental faculties and these have been established in connection with even the leading universities such as, for example, Harvard and Pennsylvania. We question whether this is not on the whole a mistake, and whether it has resulted in raising the dental students into a right position in relation to students in medicine in general. As members of a separate faculty, even though for a time taking the same courses as ordinary medical students, the dentists have been confirmed as a class apart and what, it seems to us, is more serious, managing their own faculties, they have been cut off from intercourse with and the influence of the leaders in the medical profession. In the Old Country, if the advance has been slower, it has, it seems to us, been along better lines. There, nowadays, the tendency is to encourage the dental student to obtain a degree in medicine before he proceeds to specialize in dentistry. And the results are showing themselves very markedly in the higher standing taken by the modern dentist in popular estimation, not to mention the better and more thorough quality of his work.

This, it seems to us, is the ideal plan. We should do well to demand this medical education and, on the whole, considering that dentistry is the one profession nowadays that is not overstocked, the one profession, we may add, which promises to every competent member an assured competency, there is no reason why we should not make this our ultimate goal. We doubt, however, whether the dental profession is prepared for so big a leap forwards. In so very many respects Canada and Canadian methods are intermediate between Great Britain and the States, and here also an intermediate course would seem advisable, for the present at least. As far as we can learn, the general impression of those connected with the medical faculty and with the university is strongly against the establishment of a separate dental faculty. The *via media* would seem to be found in the creation of a dental depart-

ment in immediate connection with the faculty of medicine, so constituted that dentistry should be recognized as a branch of medicine. In such a department, those teaching general medical subjects to the dental students would be combined with the dental specialists in developing the curriculum and controlling the development of the school.

This intimate relationship would, in itself, tend to raise the standing and the standard of the profession in this province and throughout the country. The more progressive and liberal minded among the students would be encouraged to take not simply the first two years of, but the whole medical course, before specializing in this one branch. Such a scheme, in short, prepares the way for a future when every dentist shall, like every other specialist in medical subjects, be a full graduate in medicine. It is, we understand, some such scheme as this which now is under consideration.

Let us admit that in enunciating this view we may be in advance of the general trend of professional opinion. We, nevertheless, think that the more the matter is considered, the surer will become the conviction that here we have outlined the right treatment of the problem. Are we justified in regarding dentistry as other than a special, if but limited, branch of surgery? If we are not, then our only right policy is to help forward the dental profession until it comes into line.

THE INFECTIVE ELEMENT IN SCARLET FEVER.

The debate upon the signification of the streptococcus so commonly found in the throats of scarlet fever patients will be familiar to most of our readers. Certain leading German physicians have concluded that this organism is the direct cause of the disease, and have explained thus the favourable results of the employment of antistreptococcic sera. Upon this Continent the other view has been taken, namely, that the streptococcus, when present, indicates a secondary infection and, more particularly, Charlton, here in Montreal, has laid down that thus antistreptococcic serum is of use, not in arresting the disease proper, but in arresting this dangerous secondary infection, which he regards as the main cause of the glandular abscesses, the nephritis and other serious lesions. The fact that in certain mild cases no streptococci are to be found, and that in these same cases the serum is of no use, seems strongly to support this view.

Though other bacteria have been brought forward as the causative agent, in every case other workers have been unable to confirm the observations of the original discoverers of such. At a recent meeting of the Boston Medical Society, Dr. Mallory brought forward evidence to show that, as a matter of fact, scarlet fever is not a bacterial disease,

but is due to a protozoon organism, allied apparently, to the hæmatozoon of malaria, present in the subcutaneous tissues—if the reports reach us aright. He has discovered not merely isolated amœboid individuals, but has recognized the process of sporulation and the formation of rosettes similar to, but larger than, those formed by the malarial organism. Dr. Mallory has achieved the reputation of being so careful a worker and has proved himself, more particularly, so expert in histological technique and in devising methods of staining, that we are prepared beforehand to accept any statement made by him in a matter in which results depend upon exact processes of staining. At the same time, it would seem that much is still to be done before it can be regarded as established that the disease is due to a protozoon form; the existence of the organism has to be demonstrated, not merely in the skin, but in the tissues of the throat, and the mode of entry and propagation of the organism within the body has to be established. Arguing from analogy, it is doubtful whether we would be able to grow the organism outside the body, at least in pure culture. Acceptance of these results will, therefore, depend very largely upon the confirmatory discovery of the organism by other discoverers in other cases, and the demonstration that it is not to be found in conditions other than scarlet fever.

We now know that infection in malaria is brought about by the intermediation of the mosquito and in these insects only through the growth in their bodies of a sexual cycle of forms. This very fact brings difficulties in the way of our immediate acceptation of Dr. Mallory's results, for so far all the evidence before us points to scarlet fever as a contagious disease, as one conveyed directly from individual to individual. If Dr. Mallory be right, we must, therefore, be prepared to find that his organism, while morphologically similar to that of malaria, has a totally different life history.

POISONING BY WOOD ALCOHOL.

Dr. Buller's paper, on Toxic Amblyopia following the use of Wood Alcohol, which appears in this issue, is of great economic importance. Few persons are aware of the extent to which methyl alcohol is employed as a beverage, nor of the evil effects which may arise from its use. Dr. Kerry's remarks after the reading of the paper before the Society were also suggestive and instructive, particularly his observations that the increase of amblyopia due to the ingestion of wood alcohol is probably owing to the fact that commercial methylated spirit contains fifty per cent. of wood spirits instead of ten per cent. as formerly. It was not unsusual about fifteen years ago to hear of factory-

hands being intoxicated from drinking methylated spirits, yet cases of blindness due to this cause were not reported. Whether the ganglion cells of the retina be the vulnerable point or whether a parenchymatous neuritis be induced, it seems sufficiently obvious, from the sudden onset, that pyrolyxic spirit acts in these cases as an essential poison to nerve tissue. It is well known that ordinary alcohol exerts a powerful and injurious action upon the nerves, and considering the much greater energy with which the compounds of the first-member of the paraffin series act, the toxicity of the alcohol of this group is not remarkable. Idiocyncrasy also seems to play an important part in cases of poisoning by this drug and the relation of the dose of the alcohol with the effect produced is not at all constant. Probably the condition of the arteries and the degree of auto-toxæmia present play an important part.

At the meeting of the Maritime Medical Association held in St. John, on the 22nd of July, 1903, Dr. M. E. Armstrong reported a case of death preceded by blindness arising from the same cause. The amount consumed was about seven ounces diluted with Bay rum, and as soon as symptoms of blindness supervened, the victim unwisely had recourse to the homœopathic procedure of continuing the use of the spirit as a remedial measure. It is clear that in this substance we have a very dangerous poison, and one that should be surrounded with all the restrictions that protect common poisons and drugs, and that its sale should be forbidden in shops other than qualified drug stores. At the meeting referred to, a committee was appointed to have such a restriction made, an example which other associations would do well to follow. Dr. Buller makes the wise suggestion that the spirit should bear the label—liable to cause blindness.

The event of the month in Montreal's little world of medicine was the visit of Dr. Osler, and his appearance before the Medico-Chirurgical Society to read a paper upon Aneurysm of the Abdominal Aorta. This condition is not so common as the disorder of Chauvinism, and yet Dr. Osler dealt with it in an equally interesting way. Of equal interest was the evidence of pleasure which the Society gave in meeting one of its past presidents, and the pretty reminiscences which his visit recalled to some of the older members. In proposing the usual vote of thanks, Dr. Shepherd graced the traditional ceremony with many happy references; Sir William Hingston drew illustrations from the great store house of his memory; Dr. F. W. Campbell, who was present with Dr. Roddick at the second birth of the Society, recalled its early days, and Dr. Mills ended all very happily in the words of longing: "Wullie, we hae miss'd ye, sair; will ye no come back again." There is many a true

word spoken in jest. Dr. Osler, in reply, could not let the occasion pass without speaking the great word—Professional Charity. All pathologists learn that word early.

The Health Committee is not to be applauded for its display of wisdom in accepting the offer of a local undertaker for the erection of a Morgue, in the face of other proposals which it had received. The Montreal General Hospital offered to equip a modern morgue on its own property. Much of the work in connection with the present morgue is done in the pathological department of the hospital, and the erection of a morgue in so central a position would render it assessible to students of the three universities. In addition to this, no special grant for carrying on the work was demanded. The Committee acted with its usual wisdom, and as usual the rightness of its decision does not appear to the ordinary observer.

Toronto is making headway with the movement for a municipal Sanitarium for consumptives. Public meetings are being held, and the facts are being laid before the people. During the past ten years in Toronto, 5,280 persons died of tuberculosis; in Canada 8,000 die every year, and 30,000 are habitually sick of this disease. In Germany there are sixty public sanitaria and twenty-two others in course of construction, and it is estimated that in eight years 24,000 lives have been saved. The profession in Toronto have a good case and they are making the best of it.

Reviews and Notices of Books.

GYNÆCOLOGY: A Text-Book for Students and a Guide for Practitioners. By WILLIAM R. PRYOR, M.D., Professor of Gynæcology in the New York Polyclinic Medical School; Attending Gynæcologist, New York Polyclinic Hospital; Consulting Gynæcologist, St. Vincent's Hospital, New York City Hospital, St. Elizabeth's Hospital. One hundred and sixty-three illustrations in the text. D. Appleon and Company, New York and London, 1903.

In this work the author has endeavoured to confine himself strictly to a description of the diseases of women and to their treatment, non-operative as well as operative. It is his opinion, in which we heartily concur, that works on gynæcology are made "too general and discuss subjects which properly belong to other departments, notably surgery and pathology." We are accordingly given a thoroughly practical

gynæcological manual of some 374 pages, in which there is a marked absence of anatomical and pathological detail.

In the first part, consisting of eight chapters, after the methods of examination have been detailed, the various diseases are discussed under general headings, such as inflammations, displacements, lacerations, fistulæ, diseases of the urethra and bladder, tumours, etc., etc. In each condition the etiology is briefly but sufficiently mentioned, the symptoms and diagnosis fully yet concisely set forth, and the appropriate therapeutic and operative measures indicated.

The second part, consisting of fourteen chapters, describes in a clear and practical manner, the various gynæcological operations, beginning with the lesser operations on the cervix and perinæum, and going on to the capital operations on uterus and adnexa. There are also special chapters on preparations for operation, post-operative management, hernia, operations during pregnancy and hæmostasis.

Dr. Pryor does not lack originality, as is evidenced in his procedure for the correction of retroversion, in his "cul-de-sac" and iodine treatment of septic endometritis, in his cystoscopic methods and even in his theories regarding the causation of dysmenorrhœa, displacements of the uterus and lacerations of the cervix. Throughout the book, moreover, the writer's strong personality is everywhere apparent. His conclusions are based on his own personal experience and his convictions are voiced with "no uncertain sound." Without hesitation he expresses "his enthusiasm for silver wire," and his warm belief in the efficacy of the iodoform gauze pack; or in equally vigorous terms condemns the expectant treatment of sepsis and the employment of anti-streptococcic serum. Though sufficiently conservative to disapprove of hasty operating for uncomplicated retroversion, and to consider that a pessary may be of great service in suitable cases, he is nevertheless so radical that he advocates the most extensive abdominal operation for cancer of the uterus, and under "Pelvic Suppuration" goes so far as to make the statement that "the removal of the uterus is indicated whenever both tubes and ovaries are to be sacrificed."

The illustrations are well executed, suitably chosen, and for the most part original. The student and practitioner cannot fail to find the book of great service, and in it even the experienced gynæcologist may find food for thought.

Intracranial Tumours Among the Insane. By J. W. Blackburn, M.A., Pathologist to the Government Hospital for the Insane, Washington, D.C. Washington Govt. Printing Office, 1903.

This monograph embodies a study of 29 intracranial tumours, found

in 1,642 autopsies in cases of mental disease. Inasmuch as clinical histories in such cases are usually so very deficient, the subject is considered purely from the pathological side; and, as such, the work constitutes a worthy contribution to the literature. To illustrate the text, which is perhaps more explanatory than critical, there are appended 30 photographs of the gross specimens, and 65 drawings of the various microscopical pictures, all of which are decidedly well done. Of the whole list no less than 17 belonged to the class of growths "commonly called endotheliomata," but which Blackburn prefers to call spindle-celled endothelial sarcomata, "spindle-cells being the predominating type of elements, and the endothelium of the dura mater and probably the soft membranes being the origin of the growths." The histogenesis of these growths is certainly often obscure, and the histological pictures reproduced seem scarcely to justify the new name which Blackburn proposes. At least they rarely represent the definite picture one associates with the term "endothelioma," which certainly arises from the lymphatics of the dura; while they do show the picture of the ordinary spindle-celled sarcoma, whose origin may be said to be the fibrous tissue of the dura. Blackburn finds transitions in the one growth from rounded or polygonal cells to spindle-cells; but that the former are proliferated endothelial cells is not frequently demonstrated.

Five of his list were gliomata, originating in the brain substance. Blackburn is inclined to view gliomata as compound tissue tumours, analogous, histogenetically, to the carcimonata, inasmuch as glia tissue is now believed to be of ectodermic origin. He would also retain the term glio sarcoma; not, however, in its old sense as designating "a variety of sarcoma or a transition form of growth," but to indicate those cases in which one finds a large admixture of round cells supposedly of mesodermic origin. In view of the occasional difficulty in the histological diagnosis of glioma, it would have been advisable to mention the staining reactions employed; of special stains, such as Weigert's and Mallory's, Blackburn says nothing.

A third group contains two sarcomata, one a glio-sarcoma (in Blackburn's sense), the other a small, round-celled sarcoma. Three tumours of the collection occupied the pituitary fossa; two were adenomata of the hypophysis; and one, which was so degenerated that its microscopical nature could not be made out, was situated in the fossa and had greatly enlarged it, but did not involve the pituitary gland. Although all were large and had pressed injuriously upon structures in the vicinity, in no case were there found signs of acromegaly, myxœdema, or allied conditions.

E. W. A.

An American Text-Book of Surgery for Practitioners and Students. Edited by William W. Keen, M.D., LL.D., F.R.C.S., and J. William White, M.D., Ph.D. Fourth edition, 8vo., pages 1,363. W. B. Saunders & Co., Philadelphia, New York, London; Canadian Agents, J. A. Carveth & Co., Toronto.

The sale of this text-book, nearly 40,000 copies have been disposed of since the appearance of the first edition, may be taken as evidence of the popularity and excellence of the book. The same general plan has been followed as in former editions, but the work as a whole has been revised and many of the chapters have been partially, and some entirely rewritten. Special mention may be made of the chapters on Surgical Bacteriology, Tumours, the Osseous System, Orthopædic Surgery, the Surgery of the Nerves, the Joints, the Head, the Abdomen, etc. The most recent researches on the intestines, on shock and blood pressure, aneurysm, renal decortication, and neural infiltrations; along with the treatment of facial palsy by anastomosis, goitre, hernia, the use of paraffin in nasal deformities, and the methods of spinal and local anæsthesia are all brought thoroughly up to date.

Five new chapters have been added dealing with Military Surgery, Naval Surgery, Tropical Surgery, Examination of the Blood, and Immunity. Though there was a brief chapter on the Pancreas in the former edition it has been expanded so greatly in the present as to be practically a new one.

It is to be regretted that the editors have not deemed it advisable to have the various chapters signed. To know who is rsponsible for an article certainly adds to the interest and impression derived from its perusal. The entire work does credit to the conception of its editors and deserves in even a much greater degree the popularity of its predecessors.

The Practice of Medicine; A Text-book for Practitioners and Students, with special reference to Diagnosis and Treatment. By James Tyson, M.D. Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University, Physician to the Pennsylvania Hospital. Third Edition, thoroughly revised and in part rewritten, with 134 illustrations, 1240 pages. P. Blakiston's Son & Co., Philadelphia.

This well known work requires very little in the way of review. It is certainly an admirable text-book for the undergraduate and a useful guide for the general practitioner. It has an advantage over many text-books of medicine because of the amount of space allotted to treatment. With regard to diagnosis it closely resembles other standard

works. The method of tabulating symptoms, etc., of one disease with another, which somewhat resembles it, is done in many instances and is a good one for the student.

The historical data, being in smaller type than the other portions of the work renders the book less bulky, besides separating in a manner, the less important, though perhaps not less interesting, so that unnecessary time need not be spent on them.

The temperature charts and other illustrations are well chosen and instructive. They are, of course, of the typical text-book type, and students would do well to remember that variations from the normal type are, perhaps, more the rule than the exception.

The exanthemata are fully described and as one would expect, it is in these largely that the work differs from the two previous editions. As our knowledge of these diseases increases, so long will new editions be necessary to keep up with the times. The newer methods of treatment are fully described, with notes upon their advantages and disadvantages.

The 200 pages given up to the nervous system show how more and more this vast subject is being handled in the general text-books. The latest physiology and pathology are given in a concise form, but quite explicit enough to show along what lines the investigators of this branch of medicine are working.

The table for reducing the metric system into the English, at the end of the book, should be found convenient. It is a feature of all three editions of Tyson's work, and is given because the author thinks that in the near future the metric system will become universal.

Clinical Pathology of the Blood: a treatise on the general principles and special applications of Hæmatology. By James Ewing, A.M., M.D., Professor of Pathology in Cornell University Medical College. Second Edition, revised and enlarged. Lea Brothers & Co., New York and Philadelphia, 1903.

The first edition of this book was published but two years ago, and we welcomed it at the time, as adding much to the literature of a subject which was receiving more and more attention as a helpful factor in many obscure cases of diseases other than those of the blood itself. In the short time that has elapsed since then, the study of the state of the blood in pathological conditions generally and in the blood diseases more especially has added so greatly to the sum of knowledge, that the author has been forced to enlarge his work considerably, even though he has omitted from the second edition much of what appeared in the

former edition, namely, detailed reports of cases and theoretical explanations of the pathological conditions.

Among the additions and changes one notes the following: In the chapter on technique a paragraph has been added on the medico-legal serum diagnosis of human blood from that of other animals, a description with a wood-cut of Dare's hæmoglobinometer and of the method of performing crioscopy with a description and cut of the crioscope of Beckmann. To the stains recommended, that of Jenner is added, a combination of eosin and methylene blue, apparently one of the many modifications of Romanowsky's stain, and possessing with these, the advantage of fixing and staining the blood film at the same time. A description of the apparatus and technique used in obtaining blood for bacterial examination is a new feature of this chapter.

In the section on Morphology and Physiology of the red cells, the recent work upon the effect of surgical procedures on the blood is incorporated. A plate is given of normal blood stained by the Nocht-Romanowsky method in the chapter on The Leucocytes and Leucocytosis, but it is apparently not referred to in the text, the principal reference to this method of staining being under the heading of Malaria, where its value in bringing out the minute structure of the malarial parasite is pointed out. Erhlich's side-chain theories of immunity are explained with illustrative woodcuts. The article on pseudoleukæmia has been rewritten and enlarged to fit the more recent work on the class of diseases included under this heading. Ewing believes that the majority of cases are of tuberculous origin, but considers that there is positive evidence that the common pyogenic bacteria and syphilis may also give rise to a condition with similar lesions and history, and indistinguishable from Hodgkin's disease of tuberculous origin.

Considerable additional work has been done upon the infectious diseases, but nothing is specially noteworthy. Reference is made to the discovery in the blood of scarlet fever patients by Class, Kurth, Charlton, and others of a streptococcus, but the author holds that at present it is impossible to decide what its relationship is to the disease. A couple of paragraphs are added upon serum-therapy in typhoid fever, and under Widal reaction, one on paratyphoid strains. "Trypanosomiasis" with a cut of trypanosoma gambiense has been added to the present edition.

Taken as a whole the book is a very decided advance upon the first edition. The four new plates and various other figures added to the illustrations very materially assist in the understanding of the subject. One regrets that after the very considerable increase in knowledge in

blood conditions which the book records, so little of practical value to the clinician has been found.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY. A guide to the application of water in disease. By SIMON BARUCH, M.D. 2nd edition, revised and enlarged. William Wood and Company, New York, 496 pages.

In this work of about five hundred pages an attempt is made, by a general practitioner, "to discuss water as a remedial agent, precisely as medicinal remedies are discussed in the text-books on therapeutics." The object held in view by the author is "to afford information in a concise and practical form," enabling others to obtain the good results of hydrotherapy from the simplest methods. With such an object before him Dr. Baruch deals with the subject from three standpoints, and into three parts his book may be divided. Hydrotherapy is defined as including "the application of water in any form from the solid and fluid to vapour, from ice to steam, internally and externally."

The first part, consisting of five full chapters, deals with the physiological effects of water, functions of the skin, rationale of action of water on health, reaction, etc.

The second part, comprising by far the larger portion of the work, consists of twenty-four chapters on the practice of hydrotherapy and its application to many diseases , as pneumonia, phthisis, anæmia and chlorosis, the exanthemata, etc.

The third part is an historical epitome, giving a general view of hydrotherapy in the different countries, Germany, Italy, France, England and America, closing with an appeal for more attention to the teaching of this branch in medical schools.

Dr. Baruch's work is a valuable one, and rendered particularly so, among other reasons, by the fact that high authorities are quoted and references given throughout its pages. We can strongly recommend it to practitioners of medicine. *W. F. H.*

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER. By GEORGE RICHARDS, M.D. Published by International Journal of Surgery Co., New York. Price, $2.00.

This work is, as the author states in the preface, intended as a working guide for the practitioner and student, with little experience in the treatment of these affections, and as an introduction to the more complete treatises. In this respect the author has succeeded admirably in placing the subject clearly and concisely and yet with sufficient attention to detail that nothing has been overlooked. The

work is entirely the result of the author's own experience, and methods of diagnosis and treatment are dealt with as he personally found them of service, without discussing many mooted points. Such a manner of thus dealing with the subjects places them in a light readily to be understood and in a way which the student can best grasp a thoroughly practical knowledge of what is most useful. Most of the original diagrams are well done, but those contributed from other sources are not equally distinct. The publishers otherwise have done their work well and taken altogether the work is one highly to be recommended to students and beginners in this branch of medicine.

Transactions of the Association of American Physicians, Vol. 18. Philadelphia, 1903.

The present volume is of particular interest to us in Montreal in that it contains the papers read at the meeting in which one of our number, Dr. James Stewart, was President, was in fact, the first Canadian president of what is assuredly the most important and influential medical association upon this continent.

It is needless to pass the various communications in review. It is only necessary to say that the Transactions retain their accustomed high standard. We know, in fact, of no other society whose transactions maintain so consistently the same high level. It is not a little interesting to us to see how fair a proportion of the articles is by those of Canadian birth. Exclusive of Dr. Stewart's address, of the forty-five articles, nine are of this order. Dr. Lafleur records a case of gastric syphilis; Dr. John McCrae gives an analysis of 717 cases of typhoid fever; Dr. McPhederan records a case of pulsating serous pleural effusion; Dr. McPhederan and Dr. J. J. McKenzie one of massive hæmorrhagic infarction of the lung due to pulmonary endarteritis and thrombosis; Dr. Osler writes upon chronic cyanosis with polycythæmia, a new clinical entity, as again upon the visceral manifestations of the erythema group of skin diseases; Dr. W. G. McCallum on the production of specific cytolitic sera for the thyroid and parathyroid; and Dr. Lewellyn Barker affords a description of the brains and spinal cords of two brothers dead of hereditary ataxia

Functional Diagnosis of Kidney Disease, with Special Reference to Renal Surgery. By L. Casper and P. F. Richter. Translated by Bryan and Sanford. Philadelphia, P. Blakiston's Son & Co., 1903.

This book, already well known in Germany whence it came, has been well translated to supply the demand of the American reader, although it has already been well known among surgeons on this side of the

water. The book deals with the problem of the so-called functional diagnosis of surgical renal conditions, and the authors hold that the mere examination of the urine in the ordinary way, even after catheterization, is in itself insufficient to determine what they call the sufficiency of the kidneys. They regard it as essential to calculate in addition the molecular concentration of the blood as done by Koranyi, and further, to determine the amount of renal function by estimating the sugar elimination of each kidney after the injection of phloridzin. The agreement in the results between the estimations of the freezing point and the sugar elimination after phloridzin is especially valuable. The urine is collected not necessarily from both ureters in most cases, but from catheterization of one ureter, and the removal of the urine lying in the bladder by ordinary catheterization. Numerous cases are cited to prove the importance of their methods. The confirmation of their results by others should do much to enhance the appreciation of careful laboratory methods for clinical purposes. We can only add that however great the benefits of these methods may be to the laboratory worker their use to the ordinary practical surgeon has scarcely yet been easy of application, and one would crave for still more satisfactory methods for estimating easily as well as accurately an existing renal insufficiency.

"Diseases of the Nose, Pharynx and Ear." By Henry Gradle, M.D. Illustrated. Published by W. B. Saunders & Co., Philadelphia and London, 1903.

The author, whose experience in this department of medicine has extended over a period of twenty-five years, presents the subjects as they have appeared to him, and in a very acceptable manner, and devoid of "padding" so frequently met with. It is not intended as an encyclopedic treatise and hence lacks the literary and historical completeness proper to a text-book. The work is divided into two books, the first, being devoted to diseases of the nasal passages and pharynx and the second one to diseases of the ear.

Whilst the work in general is fairly complete, one observes with regret the absence of consideration of diseases of the soft palate and uvula and that the subject of malignant diseases of the naso-pharynx receives such scant consideration. The second book, dealing with diseases of the ear is well written and thorough, especially the operative work upon the mastoid. The diagrams are well executed and clear; the coloured plates, representing conditions of the nose, naso-pharynx and ear are equally well done. The book will be found a useful guide to those interested in these subjects.

Autointoxications. By Prof. Dr. Carl von Noorden and Dr. Mohr. E. B. Treat & Co., New York, 1903; 80 pages; 50 cents.

This monograph is the fourth in the series of Prof. von Noorden's clinical treatises on the pathology of disorders of metabolism and nutrition, which are appearing in English under the editorship of Boardman Reed. The translation is by Dr. A. C. Croftan and it is well done; the previous volumes were well done too. Nothing need be said about the advantages of making accessible to the English reader the results of the profound experiments always being conducted in German laboratories, or of the pleasure of finding some few facts in the large talk about these abstruse matters. A summary of Dr. von Noorden's views is: that there are various manifestations of self poisoning, that the acid poisonings are the gravest form, and that an understanding of those perversions of metabolism, which result in the production of oxybutyric acid, diacetic acid and acetone is of the greatest possible importance. If Dr. von Noorden does not entirely remove the obscurity surrounding these mysterious processes he has done something to make their meaning plain, and not content with that, he has deduced some conclusions as to treatment. The studies as contained in these books are of profound significance.

A Manual of the Practice of Medicine. By A. A. Stevens, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania. Sixth Edition, revised, enlarged, and reset. Post octavo, 556 pages, illustrated. Philadelphia, New York, London; W. B. Saunders & Company, 1903. Flexible leather, $2.25 net. Canadian agents, J. A. Carveth & Co., Toronto.

This is a sound book in small compass and quite up to the needs of the average student. The work has already passed through six editions and the present one is brought up to October, 1903. Many articles, notably those on diseases of the digestive system, diseases of the myocardium, malaria, diseases of the blood, gout, diseases of the spinal cord and larynx, have been entirely rewritten.

Progressive Medicine, a Quarterly Digest. Edited by Hobart Amory Hare, M.D., Vol. IV., December, 1903. Lea Brothers & Co.

The contents of this volume, of 431 pages, are: Diseases of the digestive tract and allied organs, the liver, pancreas and peritoneum, by John C. Hemmeter; Anæsthetics, fractures, dislocations, amputations, surgery of the extremities and orthopædics, by Joseph C. Bloodgood; Genito-urinary diseases, by William T. Belfield; Diseases of the

kidneys, by John Rose Bradford; Physiology, by Albert P. Brubaker; Hygiene, by Charles Harrington, and Therapeutics, by H. R. M. Landis. This volume maintains the high standard established by its predecessors and only requires that attention should be drawn to its publication. A book of this kind is indispensable.

Medical News.

SECOND CONGRESS OF THE FRENCH-SPEAKING PHYSICIANS OF NORTH AMERICA.

On the 8th December a meeting of the physicians of the district of Montreal and the Committee of organization of this Congress was held in Laval University. Dr. A. A. Foucher, President of the Congress, opened the meeting by saying that this Congress would coincide with the 25th anniversary of the foundation of Laval University in Montreal, and that it was meant to have both the celebration and the congress come off about the same time, the chief aim of the meeting being the nomination of officers. Dr. Lesage, general secretary, gave the names of the officers suggested in the several sections and submitted this list to the meeting. Three general committees were formed: Finance; Sections Studies, with sub-committees; Organization.

General Officers of the Congress: Dr. A. A. Foucher, President, 96 St. Denis Street, Montreal; Dr. Séraphin Boucher, Treasurer, 1183 Ontario Street, Montreal; Dr. Albert Lesage, Secretary, 268 St. Denis Street, Montreal.

Finance Committee: Dr. E. R. Lachapelle, President; Dr. S. Boucher, Secretary; Drs. E. G. Asselin, G. E. Baril, Théo. Cypihot, E. G. Dagenais and L. E. Fortier.

Section of Medicine: Dr. J. P. Rottot, Montreal, Honorary President; President (will be named by Quebec); Vice-Presidents, H. Hervieux, Montreal; E. F. Panneton, Three Rivers; Secretary, Alph. Mercier, 164 Berri Street, Montreal.

Section of Surgery: Honorary President, Sir William Hingston, Montreal; President, Oscar Mercier, Montreal; Vice-President (named by Quebec); J. O. Camirand, Sherbrooke; Secretary, Eug. Saint-Jacques, 573 Sherbrooke Street, Montreal.

Gynæcology: Honorary President, Coyteux-Prévost, Ottawa; President, M. T. Brennan, Montreal; Vice-Presidents (named by United States); 2nd Vice-President, J. E. Turcotte, St. Hyacinthe; Secretary, William Jas. Derome, 372 Sherbrooke Street, Montreal.

Obstetrics and Pediatrics: Honorary President, J. B. A. Lamarche,

Montreal; President (named by Quebec); Vice-Presidents, E. A. R. de Cotret, Montreal; I. Cormier, Montreal; Secretary, E. G. Asselin, 481 St. Antoine Street, Montreal.

Legal Medicine, Mental Diseases and Morbid Anatomy: Honorary President, E. J. Bourque, Longue Pointe; President, Geo. Villeneuve, Montreal; Vice-Presidents (named by Quebec); E. M. Provost, Sorel; Secretary, E. P. Chagnon, 119a Laval Ave., Montreal.

Ophthalmology, Otology, Rhinology: Honorary President, L. Edouard Desjardins, Montreal; President, Rod. Boulet, Montreal; Vice-Presidents (named by Quebec and by United States); Secretary, Henri Masson-Duhamel, 266 St. Denis Street, Montreal.

Hygiene and Professional Interests: Honorary President, E. P. Lachapelle, Montreal; President, C. N. Valin, Montreal; Vice-Presidents, Elz. Pelletier, Montreal; L. J. Sirois, Saint-Ferdinand d'Halifax; Secretary, Jean P. Décarie, 676 Sherbrooke Street, Montreal.

The President suggested, in order to give more time to discussion, 1st, That each section furnish a lengthy work on a subject of actual interest; 2nd, That members intending to read a paper should prepare it as soon as possible; 3rd, That all such papers be printed previously to the meeting; 4th, That at the Congress, the speaker give but a concise summary and the conclusions of his communication. It was in the interest of the Congress and the members that all those having papers to present, notify the secretaries as soon as possible, giving the title of their paper.

Quebec has named the following officers:

Medicine: Honorary President, Dr. Brochu; President, Dr. Rousseau; Joint Secretary, Dr. Jobin.

Surgery: Honorary President, Dr. Ahearn; Vice-President, Dr. Art. Simard; Joint Secretary, Dr. Daigneault.

Gynæcology: Honorary President, Dr. Grondin; President, Dr. Fortier; Joint Secretary, Dr. Faucher.

Legal Medicine, Mental Diseases: Honorary President, Dr. Marois; Vice-President, Dr. Belanger; Joint Secretary, Dr. Mayrand.

Ophthalmology, etc.: Honorary President, Dr. Simard, Sr.; Vice-President, Dr. Dussault; Joint Secretary, Dr. Fiset.

Hygiene and Professional Interests: Honorary President, Dr. Catellier; Joint Secretary, Dr. F. X. Dorion.

McGILL UNIVERSITY.

Christmas examinations in the different Faculties commenced on the 14th December. Some of these examinations were final, as Geometry of the first and second years, and Psychology of the second year in the

Faculty of Arts, and also Machine Design, Mathematics and all others in the Faculty of Applied Science, as well as several in the Faculty of Medicine.

In the Faculty of Arts 25% was allowed for each paper, and the marks gained go to the credit of the student in the April examination. The maximum value of the papers set for this examination was 75%. In the Faculty of Applied Science students who fail in the Christmas examinations are obliged to pass a supplemental before they can get credit for the work in the several subjects of this examination. With the exception of two or three papers which were taken by but a few students, the examinations closed on Friday, the 18th December, when the Christmas holidays began.

The triennial list of graduates of the University has been issued. A summary of the degrees granted by the University shows that since its foundation, seventy-five years ago, the number of students in all faculties, who have graduated, is 4,366. In the faculty of medicine were 2,679, of whom 1,714 are living. There were 1,024 Bachelors of Arts, of whom 938 are living, and 559 graduates in law. The death rate in the legal profession seems heavier than amongst graduates in arts, 101 out of the 559 law graduates have died. Next to law, in point of numbers, comes Applied Science, with 521. Of these, 332 graduated prior to 1899, when the degree given was B.A.Sc. Since that time this degree has become obsolete, and in its place is the degree of B.Sc. After science comes veterinary science with 188 graduates. Among other obsolete degrees which have been offered in past years, is that of graduate in civil engineering. This degree was offered before the present faculty of applied science was established. Of these there were fifteen, eleven of whom are still living.

Later degrees which have been abandoned are those of master of engineering, master of applied science, and doctor of divinity. Since 1844 the D.D. has not been conferred, and there were only two who received it, both of whom are dead. Divinity degrees are now obtained from the affiliated theological colleges.

In the last two years some new degrees have replaced these old ones, for example, the bachelor of science and master of science in arts. The distinction between these degrees in the faculties of applied science and arts is that in arts they are conferred for work in pure science.

McGILL MEDICAL FACULTY.

The autumn session of McGill Medical Faculty ended on the 18th December. The Christmas examinations began on the 15th, but the results are not yet announced. One examination paper is appended

to illustrate the profound knowledge that is required of a first year's student

1. Explain and illustrate (1) Potential and Kinetic energy. (2) Specific heat. (3) Declination of a compass needle.

2. The volume of gas reads 76.6 c.c. at 230 degrees F., and the barometer reads 750 m.m. What would be the volume of this gas at normal temperature and pressure?

3. Give briefly the laws governing the diffusion of gases and osmosis of liquids

4. Describe an experiment illustrating the force of the surface tension of water. What is the relation of surface tension to capillary attraction?

5. How much heat would be required to convert 10 lbs. of ice at 8 degrees C. into water at 8 degrees C.? What is the mechanical equivalent of this amount of heat?

6. Give the laws of refraction of light. Describe and compare the action of a prism and a biconvex lens on a pencil of light. How are lenses made acromatic?

7. Compare and illustrate the phenomena of interference of sound and light.

8. Describe briefly what occurs when a note is sounded by (*a*) a wire: (*b*) an open organ pipe; (*c*) a closed organ pipe; (*d*) a bell; (*e*) the vocal cords.

9. Describe and illustrate the phenomena of magnetic and electric induction.

10. Explain the construction and principle of the D'Arsonval galvonometer.

VETERINARY STUDENTS LAVAL UNIVERSITY.

The veterinary students of Laval University gave a very successful and enjoyable banquet at the Place Viger Hotel on the 2nd December, presided over by Hon. Sidney Fisher, as honorary president, and largely attended by the veterinary surgeons of the city and the province. The guests numbered eighty. Amongst those present were remarked Dr. V. T. D'Aubigny, director of the Veterinary Faculty; Dr. E. P. Lachapelle, president of the Veterinary Faculty; l'Abbé Gustave Bourassa, secretary of Laval University; J. X. Perrault, H. Piché. Dr. Wm. J. Derome, J. P. H. Lorain, Dr. E. P. Benoit, J. Boyer, Provincial Lecturer on Agriculture; D. Généreux, Dr. P. T. D'Aubigny.

The students deserve great credit for the manner in which the programme was carried out. Hon. Sidney Fisher remarked that it was the first time he had been invited by Laval, and, as Minister of Agricul-

ture, he was proud to say it was by the Faculty of Veterinary Medicine. Speeches were made by Dr. V. T. D'Aubigny, l'Abbé Bourassa, Dr. E. P. Lachapelle, Dr. W. J. Derome, Dr. E. P. Benoit and Dr. Boyer.

ROYAL VICTORIA HOSPITAL.

Report for month ending November 30th: Patients admitted, 241; patients discharged, 207; patients died, 12; Protestants, 141; Roman Catholics, 90; Jews, 10; medical, 73; surgical, 102; ophthalmological, 19; gynæcological, 33; laryngological, 14. Out-Door department: medical, 89; surgical, 374; eye and ear, 329; diseases of women, 155; nose and throat, 281; total 1,949. Ambulance calls, 70.

A report issued by the directors of the Winnipeg General Hospital shows that over 3,000 patients were treated at that institution during eleven months of 1903. During the same period of 1902 the number of patients was 2,718.

The annual Christmas dinner of the Notre Dame Hospital was held on the 26th December. It was presided over by His Grace Archbishop Bruchesi and representatives were present from the governors, administrators, doctors, patronesses, benefactors and other friends of the institution.

Dr. Jules Prevost, of St. Jerome, died at the Montreal General Hospital on the 7th December, of nephritis and pneumonia, after a few days' illness. The deceased was the father of Dr. Prevost, Ottawa; Dr. Prevost, of the Provincial Board of Health, and Dr. Henry Prevost, of St. Jerome.

Dr. M. F. Haney, an old resident of Humberstone, died on the 2nd December, aged 79 years.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

ARTHUR TRACY CABOT, A.M., M.D. "Observations on the Effect of Catheter Drainage on the Function of the Kidneys in Interstitial Nephritis and Pyelo-Nephritis." *Boston Medical and Surgical Journal*, November 19, 1903.

This very interesting and suggestive article is termed a study in pathological physiology, a definition which at first sight may appear

a contradiction, but which, on reading, impresses one as very aptly taken. The article deals with the marked beneficial results obtained by constant drainage in relieving the internal pressure on the kidney caused by prostatic hypertrophy. The writer holds that the interstitial changes in the kidney are secondary to the enlargement of the prostate due directly to the obstruction to the flow of urine, rather than that the enlargement of the prostate and changes in the kidney are manifestations of a general condition. Accordingly the treatment is directed towards relieving the kidneys from internal pressure, due to the backflow of a distended bladder, and in the cases reported consisted in constant drainage by catheter. The writer does not advocate this form of treatment over operative measures, but employs it in very old or broken patients who are not fit subjects for serious operation, to those who refuse operation, and in preparing cases for the more serious operative procedures. The results obtained are decidedly good. His conclusions are:

First: "The relief of tension in kidneys that owing to long obstruction are exhibiting the clinical phenomena of interstitial nephritis, usually brings about a return of normal function. From this, it would appear the renal condition is directly due to the obstruction and increased tension."

Second: "It seems probable that in cases of dilated ureters, permitting regurgitation of urine from the bladder back into the pelves of the kidneys, a long drainage of the bladder will permit such a shrinkage of the ureters and ureteral orifices as to restore the normal valvular action of the ureters and the retro-flow of the urine will thus be stopped."

B. B. Foster, M.D. "Report of a Needle in the Prostatic Urethra." *Medical Record*, Nov. 14, 1903.

With an entire absence of any history bearing upon the cause of symptoms, and evidence of a foreign substance in the deep urethra or bladder, a perineal lithotomy was performed but nothing abnormal found. The symptoms disappeared, probably as a result of rest in bed, but soon recurred on getting up. Later on a combined suprapubic and perineal lithotomy was done, and the foreign substance found to be situated at the anterior portion of the prostatic urethra, and consisted of a needle two inches long carrying a double thread about the same length. The patient subsequently stated he had swallowed it over a year ago. One of the consultants held the view that the patient must have inserted it into the urethra himself, and the writer leaves the solution of the problem to his readers. Although the bladder was cut into

three times the wounds all healed completely and no interference with the normal functions of the bladder resulted.

C. F. Barber, M.D., "A Case of Multiple Lipoma." *Brooklyn Medical Journal,* November, 1903.

The tumours numbered 82, and were distributed over both arms and forearms to the wrists and from the waist to the knees. In size they varied from a cherry to a swelling six inches in diameter. They were all removed at one sitting, the patient making an uneventful recovery.

B. F. Lund, M.D., "The Treatment of Diffuse Peritonitis." *Boston Medical and Surgical Journal,* Nov. 26, 1903.

By a diffuse peritonitis is meant a rapidly spreading inflammation of the peritoneum resulting from a perforation of the appendix or other viscus in which the pus or fibrin is not walled off by adhesions. A general peritonitis differs from a diffuse only in extent, not in character. The writer is strongly opposed to the rest treatment in such cases and advocates immediate operation. He removes the infecting focus and then by copious irrigation with a deci-normal salt solution at 110 F. washes out as much of the infectious products as possible.

He is opposed to removal of the intestines and sponging them over as it produces considerable shock and leaves bleeding surfaces with open lymphatics to absorb infection. Drainage is secured by gauze in preference to glass or rubber tube for the reason that the tube is generally found to be filled with coagulated fibrin at the end of twenty-four hours, that the gauze wicks remove by capillarity a large amount of fluid and that the irritation caused by the gauze favours limiting adhesions. (Our experience has been that drainage by tube is by far the more efficient, that gauze frequently acts as a plug rather than a drain.) The head of the bed is raised about one foot to bring gravity into assistance in drainage. In those cases when distension is marked, an incision is made into the small bowel, contents evacuated as far as possible, and two ounces of saturated solution of Epsom salts injected, the wound being immediately sutured. Early attempts are made to move the bowels by salines and various enemata. If distension persists or increase a second esterostomy is done, the edges of the incision in the bowel being sutured to the transversalis fascia and a glass tube inserted and fixed in place to secure free vent and allow the paralyzed intestine to recover. This procedure proved effective in certain desperate cases. The mortality in cases, due to a perforative appendicitis was 57 per cent., a favourable showing when one considers the desperate condition of such cases.

W. Greenwood Sutcliffe, F.R.C.S., Eng. "The Operative Treatment of Tuberculous Glands of the Neck." *Lancet*, Nov. 14, 1903.

As a result of a somewhat extended experience in such cases the writer believes the operation should consist of as thorough a removal of glands and cellular tissue as possible, that interference with the more important vessels and nerves, especially the internal jugular vein and spinal accessory nerve, should be avoided, and the incisions so planned as to leave as little conspicuous scarring as possible. For ordinary cases glands in the anterior triangle and under the sterno-mastoid, advantage is taken of one or other of the two natural creases found in most necks running from the thyro-hyoid region to below the lobe of the ear, and incision made along this crease. For the more extensive dissections a longitudinal incision is made from the posterior limit of the first (transverse) incision downwards to meet the posterior border of the sterno-mastoid about the level of the clavicle, and the triangular flap turned forwards. In ordinary cases the glands are removed *en masse*, in more extensive cases it is better to remove them in two or more groups. The subclavian glands are often adherent to the pleura and adjacent vessels, and in this region it is better not to remove the capsule but to incise it and shell out the glands.

Kayser. "Immediate Osteoplasty of the Skull in a Case of Head Injury." *Deut. Zeit. f. Chir.* Oct., 1903.

Kayser reports an interesting case of head injury, resulting from the kick of a horse.. There was present a depressed fracture of the left parietal bone, 7½ x 5 cm., with 1½ cm. depression; both external and internal tables were splintered in stellate fashion, and were broken loose from each other; and, although there was no hole in the skull, about a tablespoonful of crushed brain matter was found in the scalp wound, evidencing the elastic back-spring of skull fragments when fractured by direct violence. The author's object in reporting the case is to record what he considers as a new method of osteoplasty in closing the defect resulting from removal of the whole of the depressed bone. This removal he had considered necessary on account of the crushing of brain substance and tearing of the dura found beneath it.

Reduced to simple proportions the method merely consists in replacing portions of the removed internal table, at about right angles to their former direction, so that the ends of these fragments are firmly fixed into the diploe on either side. Concerning the method, the author's summary is as follows: "The fragments of the internal table, in cases of fracture, are especially suitable for closure of a defect in

the skull, because they are large; because they can easily be fitted to the defect by simple rotation; and because by reason of their smooth under surface, they are not apt to form adhesions with the brain or meninges. An especial advantage of the method is that it allows immediate closure, even when extensive destruction of the membranes or of the brain substance itself is present." Sufficient space is allowed beside the fragments for drainage. The author's case demonstrated clearly the value of the method, inasmuch as there occurred immediate healing in of the fragments, and an ultimate perfect result.

Numerous side-issues—as in the German fashion—are exhaustively discussed. The one of most interest refers to the mildness of the symptoms compared with the extent of brain destruction. The symptoms were confined practically to a five-days' paresis of the right arm, coming on a day after the accident. The area of brain injured was the post-central convolution and the anterior half of the sup. and inf. parietal lobule. Sherrington has lately shown (Proc. Royal Society, London LXIX., 1901) by experiments on ten of the higher apes that the "motor" cortex is confined to the ant-central convol. and the central sulcus; and that the post-central convol., contrary to what has heretofore been understood, is entirely free from motor centres. Analogous proof from the histological side has lately been furnished by Brodmann (Neurol. Centralbl., 1903), who found the minute architecture of the two areas quite different from each other. Clinical evidence has lately been accumulating tending to support these laboratory views, and Kayser considers his case as a decided addition to this evidence. The paresis of the arm, transitory as it was and coming on only after 12 to 24 hours, may be set down as due to reactionary œdema.

Other matters discussed concern the elevation of uncomplicated depressed fractures (against which Kayser declares himself); the experimental fracture of the skull in cadavers, which showed him that the two tables were constantly loosened from each other; the advisability of immediate closure of traumatic skull defects; and the history of osteoplasty of the skull. Upon one point, protest may be made. Kayser advises immediate closure in order to prevent hernia cerebri. Against this should be urged that, if there is to develop a hernia cerebri (a very rare thing) it indicates a degree of intracranial pressure so great as to render closure of the skull decidedly dangerous, as has been so well shown by Kocher and Cushing.

Dr. Karl Vogel. A Case of Restoration of the Radial Diaphysis with Ivory. *Deut. Med. Woch., Nov. 12, 1903.*

The patient, a girl of 8 years of age, entered hospital for necrosis of

the whole radial diaphysis, following an osteomyelitis six months previously. The sequestrum was removed, and healthy granulations sprang up, but there soon developed a marked subluxation of the hand towards the radial side. To prevent this complication, which threatened to leave the patient with a deformed and comparatively useless wrist, a stick of ivory was inserted, the sharpened points of which were forced into the radial epiphysis at either end. The soft parts were united over it. Uninterrupted healing. The case, watched for over a year, showed no sign of sinusformation.

An interesting point in the case concerns the fate of the arm as growth proceeds. What will happen on the radial side while the ulna is growing to adult size? A Röntgen photograph of the case taken a year after operation shows quite considerable new formation of bone, both from the epiphyseal ends and from remains of the periosteum covering the former diaphysis.

The subluxation of the wrist was also greatly improved; while function was perfect, save for slight restriction of pro. and supination.

The healing in of foreign bodies must naturally always remain problematical, even in aseptic wounds; but the present case, with many others to be found in the literature, would seem to bear out Mayo's remark, that in tissues not subject to much movement, such as bone or aponeurosis, such healing in may as a rule be expected, while the reverse is true of tissues which are in constant motion, such as muscle.

E. W. A.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND W. F. HAMILTON.

Hamilton Graham Langwill, M.D. "Epistaxis at the onset of Acute Rheumatism." *The Scottish Med. and Surgical Journal,* Nov. 1903.

Three cases of epistaxis at the onset of acute rheumatism are described. In one case epistaxis occurred at the onset of three separate attacks. The writer asks whether it is possible that these instances of epistaxis are, as it were, links to the allied hæmorrhagic conditions associated with the rheumatic state described sometimes as purpura rheumatica, the mucous membrane here being the site of the bleeding instead of the cutaneous tissues.

Campbell P. Howard, M.D. "Pneumococci Arthritis—Report of Three Cases. *Johns Hopkins Bulletin,* Nov. 1903.

Case No. 1. Male, æt. 42, with acute lobar pneumonia of mid-

lobe, acute pericarditis, arthritis of the right shoulder, acute endocarditis, meningitis and arthritis of the right ankle; died on the eleventh day of the disease. Cultures from the blood and from the fluid aspirated from the right ankle and from the endocardium showed typical pneumococci, lanceolate diplococci.

Case No. 2. Male, æt. 79 years, lobar pneumonia, arthritis of left shoulder on the 7th day; right knee, 8th day; left knee, 9th day. Death on the 9th day. Smears of purulent fluid from the left shoulder and right knee showed capsulated diplococci.

Case No. 3. Female, æt. 69 years. Lobar pneumonia, arthritis of right knee—10th day, death. Smears from mitral valve vegetations and joint fluid showed presence of typical lanceolate diplococci.

Alexander W. MacCoy. "A Clinical Study of the use of Antitoxine Serum (Dunbar's) in Hay Fever." *The New York and Phila. Med. Journal,* Nov. 21, 1903.

Additional evidence of the efficacy of Dunbar's treatment of hay fever is furnished in the report of its use in six of the fifteen patients observed by Dr. MacCoy during the season of 1903. It will be remembered that in the July number of this Journal, under the Retrospect of Medicine, a brief resumé of the discovery of the serum with subsequent experiments by Sir Felix Simon was published. The present communication confirms the results previously obtained and Dr. MacCoy remarks that in the fifteen cases in which he made his clinical experiments the effect was so promptly manifested, the relief so complete and the result so permanent for this season, that it appeared really marvellous. His experience confirms the contention of Professor Dunbar that cases of hay fever are dependent upon the toxine resident in various pollens of grasses. The application of the remedy is very simple. "To the conjunctival mucous membrane one or two drops were instilled from two to four times daily. For the nasal passage from two to four drops were dropped into each nostril from two to six times a day."

Dr. Diefendorf. "Blood Changes in Dementia Paralytica." *The Amer. Journ. of Med. Science,* Dec., 1903.

A careful study of the blood of patients suffering from dementia paralytica, with a review of the more important work done upon the subject for the last fifty years, is found in this article. The conclusions are as follows:—

Dementia paralytica is accompanied by a moderate and progressive anæmia involving, especially, the hæmaglobin and becoming more marked as the disease progresses.

The terminal state of the disease is accompanied by a rise in the hæmaglobin, erythrocytes and a leucocytosis. Paralytic attacks are accompanied by a leucocytosis.

Throughout the disease process there is a pathological increase of polymorphonuclear leucocytes which reaches its height during the terminal state.

States of paretic excitement, stupor or quiescence, not terminal, are not accompanied by any characteristic blood changes.

The presence of a leucocytosis accompanying the terminal state and paralytic attack is significant evidence in favour of the toxic origin of the disease.

Trevelyan, E. F., M.D. "On Tuberculosis of the Nervous System." *The British Medical Journal,* Nov. 7, '03.

In The Bradshaw Lecture Dr. Trevelyan considers this subject under four heads, drawing from the records of 114 fatal cases. (1) The forms which tuberculous infection may assume in the nervous system. (2) The mode of infection of brain and meninges. (3) Some points of diagnosis connected with spinal puncture, and (4) the possibility of recovery. "The various forms of tuberculosis of the nervous system consist of tuberculosis of the dura mater, tuberculous meningitis in its more general and limited forms, tuberculous masses in the brain and spinal cord, and a possible miliary tuberculosis of the brain itself."

The question concerning the possibility of tuberculous meningitis with the presence of tubercles is briefly discussed. The poisons of the tubercle bacillus may cause the serous form of meningitis in those cases where tuberculosis is found elsewhere, but upon this point more information is wanted.

As to the mode of infection it is pointed out that an old focus is found elsewhere in the great majority of cases and where this was wanting the notes were incomplete. He refers to a case of tuberculous cerebellar tumour found in an infant 23 days old. The nose and ear and lungs may be the channels of infection. The joints and bones, the genito-urinary organs and the lymphatic glands are shown in these cases to bear important relations to tuberculosis of the nervous system.

What brings about the mobilization of the tubercle bacillus from the infecting focus? Among the suggested causes are tuberculin injections; sexual excitement; operative interference (anæsthesia); any in-

jury and intercurrent diseases as measles or whooping cough. As to the channel of infection the evidence is in favour of the blood stream.

The Spinal Fluid.—Of highest importance is the presence of tubercle bacilli and lymphocytes in the deposit, and the results of inoculation tests. Lumbar puncture is of much importance while the cyto-diagnosis is not always correct.

The fourth division of the lecture is of much interest, for a diagnosis of tuberculous meningitis is tantamount to a fatal prognosis in the minds of the great majority of clinicians. Nevertheless there are remarkable recoveries recorded. In tuberculous tumours, according to Gowers, arrest is not uncommon. What pathological evidence is forthcoming in favour of this view? In Dr. Trevelyan's case in the Leeds Infirmary no cases afford pathological evidence for this view. The *literature* contains records of not an inconsiderable number of cases of recovery which Dr. Trevelyan has analyzed. Either anatomical or bacteriological evidence in these cases is more or less satisfactory, but doubtless in some cases incontrovertible evidence is adduced.

Thos. B. Futcher, M.B. "The occurrence of Gout in the United States." *The Practitioner,* July, 1903.

In the special Gout Number of *The Practitioner* several interesting contributions are published, among which, that of Dr. Futcher is of particular interest to American physicians. The results of this study of gout in the United States are as follows in Dr. Futcher's summary:

1. The apparent infrequency of gout in the United States is due in large part to failure to recognize the disease.

2. Out of 15,697 medical cases admitted to Dr. Osler's wards at the Johns Hopkins Hospital during a period of fourteen years, there were 41 cases of gout, or 0.26 per cent. of the total number of medical patients. For the same number of years at St. Bartholomew's Hospital there were 124 cases out of a total of 33,356 medical admissions, or 0.37 per cent. of the medical cases.

3. The ratio of admissions of gout to the two hospitals is respectively a little greater than as 2 is to 3; or, in other words, the admissions of gout to a general hospital are a little less than one-third more frequent in London than in Baltimore.

4. All of the 42 cases were males. There was only one coloured patient in the series. The negro race appears to possess a relative immunity against the disease. The largest number of cases, 13, occurred in the fifth decade. Of especial interest is the fact that 32 of the patients were native-born Americans.

5. The majority of cases appear to have earned rather than inherited

their gout. Alcohol and lead seemed to be the most potent ætiological factors.

6. Thirty-nine of the 42 cases had reached the chronic stage before they came under observation. In 19 of the cases tophi were present.

7. Among the most interesting complications may be mentioned four cases of gouty bursitis, one of parotitis, one of pericarditis, one of retrocedent gout with symptoms simulating intestinal obstruction.

8. There was evidence of disease of the kidneys in the majority of cases. Albuminuria occurred in 32, and hyaline or granular casts in 26 instances.

9. Arterio-sclerosis of varying degrees was present in 29 cases, and a mitral systolic murmur in 8 cases.

10. The difficulty in differentiating the disease from rheumatism was illustrated by the fact that four of the cases were repeatedly diagnosed as the latter in their early admissions to the hospital, the appearance of tophi later revealing the true nature of the disease.

11. The series illustrates the great importance of examining the ears and the vicinity of the joints for the presence of tophi in all cases of multiple arthritis of doubtful origin.

W. F. H.

RHINOLOGY AND LARYNGOLOGY

UNDER THE CHARGE OF H. S. BIRKETT.

SIR FELIX SEMON, C.V.O., M.D. "The operative treatment of malignant diseases of the Larynx." *Jour. of Laryngology, Rhinology and Otology, September, 1903.*

This thoroughly classical article was read by the author at the recent meeting of the British Medical Association as part of a discussion on this interesting subject. The first part of the paper deals with the history of radical operations for malignant diseases of the larynx, beginning with total extirpation, then the less formidable procedure of thyrotomy giving the results obtained by each of these measures. Upon the statistical side of the question the author expresses himself in no uncertain way when he says that it has done more harm than good in this particular question. Whilst a convinced adherent of this statistical method, he is at the same time fully conscious that it is a double-edged weapon, and that by putting the question at issue wrongly, or by employing statistical material without close scrutiny, most fallacious results might be obtained. It is not difficult to prove this with special reference to our subject. Statistics might be employed to show broadly the general results so far obtained by a particular

operation by simply grouping all the cases together that have ever been operated upon by that method. There is not a word to be said against this, so long as there is only the question of satisfying the reader's curiosity as to the cures and results obtained; but when it is desired to decide *the value* of a particular form of operation nothing would be more misleading than to simply keep together all such operations, ever performed at any time, and by anybody, and to draw conclusions from the bare result of such an indiscriminate array of cases as to the real efficacy of that operation..

Another drawback to statistics is that no general principles are agreed upon, according to which they ought to be prepared. Thus the views of another who has given us statistics on the question differ as to the period when the patient may be looked upon as "cured" after the operation, some demanding a period of three years, others of two, whilst the author, from a large experience, is convinced that unless recurrence takes place within one year from the operation, the word cure can safely be employed.

The author also considers the five different operative methods of dealing with malignant diseases of the larynx:

1. Intralaryngeal method. The author expresses his grave doubts as to the rationale of this form of operation and believes that, with some extremely rare exception, it is absolutely unsuitable for radical extirpation and that its employment is diametrically opposed to, and irreconcilable with, the principle which is universally acknowledged as the guiding one in dealing with malignant growths in other parts of the body.

2. Thyrotomy. To the author and Butlin is due the credit of having re-established this operation and of making it "perfectly ideal." The author's remarks are therefore from his vast experience *ex cathedrâ*.. This operation is indicated in all cases of intrinsic malignant the larynx in which the diagnosis is made at a time when the disease is not too extensive nor apparently too deeply infiltrating.

In order to obtain satisfactory results the following conditions are absolutely essential:

1. The operation must be restricted to early stages of intrinsic malignant disease.

2. For this purpose an early diagnosis is indispensible.

3. The operation when performed must be thorough—*i.e.*, no sentimental considerations concerning the amount of vocal power to be retained by the patient must interfere with the imperative necessity of removing a sufficient area of healthy tissue round the growth in all directions. A violation of this rule in a single part of the periphary of the new growth may frustrate the entire purpose of the operation.

4. Should it be found, after opening the larynx, that the disease is more advanced than it appeared from laryngoscopic examination, it is the duty of the operator not to limit his interference to the operation originally contemplated, but to perform partial laryngotomy, or, indeed, any other operation, the necessity of which may become apparent when the extent and depth of the infiltration of the new growth has been definitely ascertained.

The technique of the operation is fully described in the *Lancet* in 1894, to which we refer our readers.

3. *Partial extirpation of the larynx*: By partial extirpation the author means an operation in which no less than one entire wing of the thyroid cartilage, and possibly additionally an arytenoid and parts of the cricoid cartilage are removed. The author is, however, convinced that partial extirpation of the larynx will come to be more rarely performed in proportion to the diagnosis of malignant diseases being arrived at more and more early.

4. *Total extirpation of the larynx*: On this subject the author has been grossly misrepresented as being an avowed opponent of total laryngectomy, and states that whilst he is not over enthusiastic he has never denied and does not deny that in cases in which the disease begins in a situation which, *a priori*, renders it impossible to eradicate it by less heroic means such as on the posterior wall or on the œsophageal aspect of the larynx or when it has not been sufficiently early recognized and allowed to grow beyond the limits of thyrectomy or partial extirpation, its performance may become unavoidable to save the patient's life.

5. *Subhyoid pharyngotomy*: This operation is suitable for cases in which the disease starts from the epiglottis or from the arytenoepiglottidean fold and its technique is an easy one, whilst it affords good view of the field of operation.

6. *Palliative tracheotomy*: This operation ought only to come into question when either the disease has started in a locality in which nothing short of total extirpation could come into play, and when the patient declines to submit to that operation, or when the disease, although starting in a more favourable locality from the milder forms of operation has unfortunately not been recognized early enough to allow of the milder forms of radical operation.

The author concludes with a statement that operative treatment of a malignant disease of the larynx, if pursued on the lines which are at present generally followed by British observers, with quite the more satisfactory results, the sooner the diagnosis is made, and the earlier and more thoroughly operation is carried out.

The reviewer had the pleasure of hearing this address delivered in extenso, and would strongly advise those interested in the subject to

read it in detail, as it stands as one of the most lucid and classical addresses on the subject extant.

DEMME (BERLIN). "Anomalies of the blood-vessels in the Pharyngeal region." *Archives of Otology,* Vol. XXXI., No. I.

The author has examined about three hundred pharynges and has collected clinical observations. The occurrence of pharyngeal hæmorrhage after operation depends on superficial position of the vessels. Clinically their position can be observed by visible pulsations. It is possible to distinguish between the pulsations and the abnormally distinctly visible blood-vessels of aneurysmal bulbous, or cavernous vessels and pulsating angiomas. The position in the pharynx where those changes are apt to occur are as follows:

1. Posterio prharynx, which includes the posterior and lateral pharyngeal walls.

2. The tonsilar region. In the posterior pharynx the internal carotid artery alone is of importance. The various forms of loops are described in this region.

They are of no clinical importance, and, as they are visible, can easily be avoided.

The deaths after adenoid operation from fatal hæmorrhage were probably the result of injury to those variations in the carotid.

Aneurysmal changes of the carotid at the posterior pharyngeal wall and angiomas connected with the carotid occur very rarely in this region. As regards the tonsilar region the author considers it incredible that such small arteries as the tonsilar and palatal can produce the terrible and fatal hæmorrhages which have been observed after injuries to the tonsils. Numerous examples have convinced the author that the arch described by the lingual artery over the stylo-glossus causes the pulsation of the tonsil. These pulsations are still larger if the lingual and maxillary arteries have a common origin.

Regarding post operative hæmorrhage, it is especially important that if the lingual artery describes a particularly pronounced arch the tonsilar and palatal arteries are apt to originate from the crest of this arch and they then have a large lumen. Dilatation of the vessels appears in this region only, in connection with angioid tumours. The tumours are of great malignancy and not very rare.

TREITEL (Berlin). "Pharyngitis and laryngitis due to influenza." *Archiv. für Laryngologie und Rhinologie.* Band, xiii., vol. I.

The following is a brief outline of a very interesting paper in which the author describes his own observations and those of others of objective symptoms met with in influenza involving the respiratory tract.

. In most of the cases of influenza the catarrhal symptoms appeared in the upper part of the respiratory tract.

Curschmann found that in 81 per cent. of the cases of influenza the nose and bronchii were affected, whilst about 5 per cent. produced tonsillitis and laryngitis. The cases of tonsillitis frequently proceeded to phlegmon and œdema of the glottis, whilst Kronenberg met with cases in which hæmorrhages were of frequent occurrence.

The most frequent accompanying symptom or sequela was neuralgia of the nasal and frontal regions, whilst paralysis of the muscles of the soft palate and larynx were met with. Of the intrinsic muscles those most frequently attacked were the thyro-arytenoidei.

Fraenkel observed eighteen such cases out of thirty-three due to influenza. A characteristic of this form of inflammation is the length of time which the catarrhal symptoms last.

Fraenkel has drawn attention to the most frequent objective laryngeal symptoms, namely, a superficial ulceration involving the middle portion of the true vocal cords. These ulcerations are of a greyish colour, with the surrounding mucous membrane deeply injected and swollen; they begin apparently as infiltrations of the mucous membrane, and after several weeks break down, leaving a superficial ulceration as above described. Fraenkel believes these infiltrations to be definitely fibrinous, and observed them in 50 per cent. of cases of influenzal laryngitis. He also noted the persistency of the laryngitis in these cases.

Ruhemann noted that in cases of influenza involving the pharynx the nervous symptoms predominated. Landgraf reported a rather singular objective symptom in one case in which the mucous membrane of the hard palate showed an intense hyperæmia with whitish coloured epithelial infiltrations. The affection was so painful as to make mastication and deglutition almost impossible; similar objective symptoms also made their appearance in the pharyx later on.

Solis Cohen has observed a pseudo-membranous exudation on the tonsils, soft palate, larynx and tongue. The chief characteristic of this condition is its colour, which is opaque. This opaque colour is often equally distributed over the whole of the superficial part of the tongue and sometimes it is observed in the middle and root of the tongue only, whereas the tip is covered with isolated rounded or oval spots.

In a later epidemic Engelmann observed a diphtheritic deposit on the pharynx and tonsils, and was able, in a number of such cases, to demonstrate the presence of Pfeiffer's bacillus of influenza.

The author briefly describes a case of his own in which the superficial ulceration present resembled mucous plaques, but the demonstration of Pfeiffer's bacillus proved the case to be of influenzal origin.

Society Proceedings.

OTTAWA MEDICO-CHIRURGICAL SOCIETY.

Fifth Meeting, December 3rd, 1903.

Dr. H. B. Small, President, in the Chair.

Dr. Webster presented a case report with specimens of cancer of the uterus. This was a case in which a timely diagnosis had been made, but operation was refused until the condition instead of involving only the cervix had extended throughout the whole organ.

Dr. Dewar showed a specimen of tubal pregnancy and Dr. Prevost exhibited a large enterolith, together with portions of the ileum, cæcum and the appendix.

Dr. Echlin showed the post mortem specimens from a case of carcimona of the stomach with very extensive metastases in the liver, lungs and kidney.

A case report of Hernia of the Appendix and a small portion of the cæcum complicated by obstruction and sloughing of the parts involved was read by Dr. Dewar.

The paper of the evening, entitled "Tumours of the Right Iliac Fossa," was read by Dr. L. C. Prevost.

Sixth Meeting, December 17th, 1903.

A committee was appointed to make further investigation in regard to the proposed alterations in the Municipal Act, at present in Committee of the Legislature of Ontario, by which physicians are assessed. The committee was instructed to draft and secure signatures to a petition in protest against the proposal.

Dr. A. S. McElroy exhibited a large Enterolith from a fatal case of general peritonitis, and Dr. M. O. Klotz showed a renal calculus from a case in which the symptoms were precipitated by a kick in the groin.

In discussion of Dr. McElroy's case, Dr. Webster gave the reports of two cases of General Peritonitis arising from the appendix. They were admitted to the Protestant General Hospital during the same week. The one ended fatally soon after admission, the other was operated upon; the latter patient was discharged 38 days after admission, with all sinuses closed. Drainage by tubes was used in both loins and on either side of the abdomen with thorough flushing with saline.

A discussion on Tuberculous peritonitis was opened by Dr. W. I. Bradley. He took up the etiology and pathology of the conditions and said, Tuberculosis was essentially a local disease, and often spread but slowly by direct extension; but if the bacilli gained access to the lymphatics or blood vessels, it might be rapidly and widely disseminated—even generalized. In the first case there was a decided tendency

to the setting up of a conservative fibrosis, which might lead to "cure"; but, as a rule, in "cured" tubercles, the bacilli were not dead, but quiescent. The different types which the disease assumed were considered: Acute Miliary with serous or sero-sanguinous exudation; Chronic Caseous or ulcerating, usual with purulent or sero-purulent exudation; Chronic Fibrous. The origin, was, as a rule, secondary to tuberculous conditions elsewhere. A primary tuberculous peritonitis was certainly rare. Localization was most frequent in the pelvis, and this localization might be maintained by adhesions; but localization was possible in any part of the abdominal cavity, depending largely on the primary site of infection.

Dr. M. O. Klotz took up the Symptomatology and Diagnosis. He outlined the usual symptoms of the more rare acute and subacute forms, and of the more frequent chronic form, whether of the dry or adhesive type, or of the type characterized by effusion, general or localized, purulent or serous. As regards *Diagnosis*, he urged that "in view of the excellent results that have been obtained by simple laparotomy in selected cases, it is of the utmost importance that an early diagnosis be made." The value of such diagnostic measures as the injection of *tuberculin*, *Widal's* test and the *lencocytic blood count*, was spoken of. The frequency of evidence of tuberculosis in other regions of the body, to which the peritoneal tuberculosis is secondary was also mentioned. The points of differentiation from Typhoid fever, Ovarian Cyst, and Cirrhosis of the Liver were taken up more in detail, whilst diagnostic features of cancerous growths and other conditions were merely outlined.

Dr. Webster spoke on the treatment of Tuberculous Peritonitis, taking it up, mainly, from a surgical aspect. He recalled the first recorded case of improvement attributed to simple laparotomy, that of Sir Spencer Wells, in 1862. The operation was first systematized by König, in 1884. He also published further results in 1889, estimating that out of 131 cases, 74 were quite cured at the end of two years after operation. Adlebert's results, published in 1892, were not so favourable. In 308 cases, 26.17 per cent. were in good health at the end of two years.

The consensus of opinion at present was in favour of laparotomy in all cases except those of the adhesive variety, and there also operation was advisable when obstructive symptoms occurred. In all, especial care was necessary in order to avoid the production of local injury, owing to the great liability of fœcal fistula. Consequently, only the less firm adhesions were separated and the primary focus, when abdominal, was excised only when easy of access. Drainage was to be avoided, except when there was pus. The most favourable were afebrile cases,

without much wasting or anæmia, especially where the fluid was serous. In these the very best results followed simple incision, sponging and washing out of the cavity.

Three cases were cited in illustration by Dr. Webster. In the first a vaginal drainage for a supposed pelvic abscess was followed by the development of a fœcal fistula. After the healing of this and the rallying of the patient, a laparotomy was undertaken in order to evacuate a collection of pus in the upper part of the right iliac fossa. The condition found was one of tuberculous peritonitis with extensive and dense adhesions—so much so that removal of the primary focus, the tubes, was quite impossible.

On the other hand, a case of complete cure was cited; in this there was a large collection in the lower abdomen, closely resembling an ovarian cyst, in a woman of 40 years. This was opened and drained. The patient left the hospital with a drainage tube sinus. One year after, she returned for closure of the sinus. On opening the abdomen one tuberculous mass was visible. This was excised, the wound healed and two years after the first operation the patient was alive and well.

In the third case, a cure was quite unlooked for. This was the case of a young man, 22 years old. Two large collections of pus were opened and in both openings fœcal fistulæ developed. The patient went down hill rapidly and death seemed imminent. He was taken home but soon after rallied, the fistulæ eventually closed and to-day he was quite well.

The further discussion was continued by Dr. Higgins, of the Bacteriological Laboratory of the Department of Agriculture. He exhibited a specimen of a portion of the intestine of a guinea pig. The specimen showed tuberculous ulceration, due to infection by ingestion of milk from a tuberculous cow. He cited experimental research, which showed the entrance of tubercle bacilli into the lymphatic spaces of the intestine of a guinea pig without there being any lesion of the mucosa or submucosa. He considered the tubercle bacillus as found in bovine and human tuberculosis to be one and the same bacillus. The apparent difference was due to the inequality of temperature in the two hosts. He also cited experiments showing the beneficial influence of high frequency currents upon guinea pigs suffering from tuberculosis.

Dr. L. C. Prevost cited cases of tuberculous peritonitis in which all symptoms were latent, and consultation was sought merely for the unnatural enlargement of the abdomen.

Dr. Chabot spoke on the difficulty in diagnosing some cases of Tuberculosis, Ovarian Cyst and Ascites due to Cirrhosis or other cause. He approved of laparotomy in the adult, but thought that, as a rule, more could be accomplished in children by tonics and hygienic measures.

SOCIETE MEDICALE DE MONTREAL.

Meeting, November 25th, 1903.

"Interstitial injections of Paraffine, for correcting certain Deformities," was the title of a paper read before the meeting, by Dr. A. A. Foucher. Having recalled that this operation is of recent date, hardly four years, he summarized the various phases this method underwent, beginning with Gersung in 1899 up to the present date, and the numerous deformities that have been treated by the process.

This method has been resorted to in ocular prosthesis for the support of artificial eyes; for restoring sunken cicatrices, no matter where situated; in atrophic coryza; for the cure of varices; external nasal deformities; for maintaining mobility in articulation after resection, etc.

The substance first used for the injection was vaseline, but its feeble consistence allowed it to diffuse very easily through the tissues and histological examinations demonstrated a commencing absorption of the vaseline. A few cases of pulmonary-embolism occurred, and if the operation has regained favour it is owing to vaseline having been replaced by a similar substance, more solid and not so easily absorbed or diffused—paraffine, according to Eckstein's formula, a solid, homogenous, whitish, semi-transparent substance, melting at about 65° cent. This paraffine is injected, by means of a syringe with metallic piston. If the ordinary antiseptic precautions be observed, and if the injection be made only within the proper limits, the results are excellent and permanent, and the tissue reaction is almost nil; it is completely absent if the quantity injected is not too large.

Dr. Foucher reported two cases recently operated upon by him, both cases being nasal deformities. Photographs taken before and after treatment and enlarged by the magic lantern showed the details of the deformity and the perfect correction obtained through paraffine injections.

Dr. Francois de Martigny. "Clinical Observation and the Pathological specimen of a case of Ovarian Pregnancy." On the specimen could be seen the insertion of the placenta on the ovary, and one could also see that the sacculated membrane was in perfect continuity with the albiginea. This was the seventh case of ovarian pregnancy recorded up to the present day; the six others being those of Patenko, Mouratoff, Saenger, Makeroat, Larsen and Chrobak.

The history of the patient reads as follows: Married woman, aged 26, had two normal pregnancies, no miscarriages; last October menses were ten days late, followed with the expulsion of clots and considerable flooding of darkish fluid. After this period, pain was experienced in the right illiac fossa, and pain has so increased that an operation was performed on the 17th November.

Dr. O. F. Mercier closed the meeting by reading the clinical observation of a case of Empyema having spontaneously opened exteriorly and in the stomach. A wide opening of the external fistula was practised and resection of a rib was made. Through this opening draining tubes were introduced—and food taken by the mouth was noticed to flow out from the tubes. It was first thought there was a communication with the œsophagus, but a chemical examination of the secretion demonstrated the presence of gastric juice.

Dr. Lacavalier in discussing the case thought it was more likely a case of pneumococci infection rather than a case of empyema. The same opinion was shared by several other members. A few abstained from making any remarks as the history of the case was too obscure.

Meeting December 15th, 1903.

The President, Dr. Valin, in the Chair.

Dr. William James Derome read a paper on "Perforations visicrales traumatiques et spontanées" containing five observations, three of which concerned perforations of the intestines and the stomach, the latter a traumatic perforation, not operated upon and followed by death, and two pathological perforations of the duodeum and the common biliary duct, both operated upon and recovered.

The last case he thought unique in medical literature — that of a spontaneous rupture into the abdomen of the common biliary duct, caused by gall-stones, and flowing of the abdominal cavity with gall. In all the cases a diagnosis of rupture or perforation was made previous to the operation or the post mortem examination.

Dr. Derome was called in consultation to see this patient and diagnosed gall-stones rupture of the biliary ducts and perhaps appendicitis. This patient not being able to pay for a private ward, Dr. Derome had her enter the public wards of the Notre Dame Hospital where she was seen and operated upon by Dr. O. F. Mercier.

Dr. O. F. Mercier admitted having a difference of opinion with Dr. Derome, and operated for apendicitis; appendix upon inspection seemed sound, but bile flowed freely from the cavity. A second incision was made higher up and a rupture of the common duct was immediately seen buried in a thick fibrinous exudate. The gall-bladder was stitched to the abdominal walls and opened and a glass tube inserted close to the site of the perforation to insure drainage. Since operation 39 gall-stones have been passed and the patient made an uninterrupted recovery.

Dr Frs. de Martigny congratulated Dr. Derome upon his diagnosis and urging the patient to enter the hospital. This, he thought, was indeed a very rare case, perhaps unique. Dr. de Martigny then recalled

what he had stated at a previous meeting concerning systematic abstention versus immediate intervention, giving preference to the latter. This clinical observation was a striking illustration of the advantage of an early and positive diagnosis in such lesions and of an immediate operation. No delay should be suffered if patients were to be given any chance of recovery. A great responsibility fell to the lot of clinicians in surgery to instruct students how to diagnose such cases and call upon a surgeon as soon as possible after the lesion was diagnosed. It pertains to the surgeon to apply the principles of medicine and reason them out, for, medicine was the basis of surgery, a physician might ignore surgery, but a surgeon must not ignore medicine.

Dr. J. E. Dubé presented an interesting communication on "Asystolic Cardiaque et son traitement." Having reviewed the various symptoms of the disease, the question of treatment was taken up and considered as to hygiene, diet and drugs.

Drs. Alph. Mercier, Lesage and Valin mentioned the importance of condemning the use of salt in the diet of such patients, in accordance with experiments lately carried out by Vidal.

Dr. A. A. Foucher read a letter from a country physician who had consulted him about a case of Rheumatic Iritis. Dr. Foucher who had just been reading Dr. Bouchard's communication to the Congress of Cairo, on the efficiency of injections of drugs *in situ mali*, had advised hypodermic injections of sodium salicylate in the region of the temple. The patient had already been taking the drug for several days, along with the ordinary local treatment, but without results, when local injections were resorted to. After the first injection, pain was greatly relieved and in two or three days all trouble was over. A second attack was stopped at the onset by the same treatment, the first injection having quieted all pain.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Fifth Meeting, December 4th, 1903.

H. S. Birkett, President, in the Chair.

Dr. J. M. Elder read a case report upon sarcoma of the small intestine. He exhibited the specimen and presented the patient from whom the tumour had been removed.

Dr. Lapthorn Smith taking up the discussion urged the early removal of all abdominal tumours. He laid it down as a rule that free fluid in the abdomen was suggestive of malignancy and that the glands were rarely involved in cases of sarcoma. He noted that a large number of conditions simulated appendicitis and deprecated the medical treatment of the affection.

Dr. C. B. Keenan urged carefulness in diagnosing previous attacks of appendicitis, when one found the appendix adherent, as adhesions might form without symptoms. He also reminded the meeting that recurrence after removal of sarcoma might be delayed for five years.

Dr. Frank Buller read a paper upon blindness caused by wood alcohol. The communication appears in the present issue of the Journal.

Dr. E. A. Matthewson in opening the discussion recalled cases of blindness occurring from the vapour of the alcohol alone, in painters and others who were obliged to handle the spirit.

Dr. Kerry believed the increase of cases arose from the fact that the amount of methyl alcohol present was much larger than formerly, having risen from ten to fifty per cent.

Dr. Ridley MacKenzie agreed with Dr. Kerry's explanation, and referred to two cases, which occurred some years ago, in which habitual exhiliration was maintained by the use of wood alcohol without impairment of vision.

Dr. G. Gordon Campbell referred to an analysis of an alcohol made by Professor Lawson, of Halifax, which was alleged to have been distilled from woods. It was found to be composed of ethyl alcohol qualified with fish-oil and passed off as methyl alcohol to secure the lower rate of excise duty. This, he thought, explained the absence of ill effects from its use.

Sixth Meeting, December 29th, 1903.

H. S. Birkett, President, in the Chair.

The President presented Dr. Osler, who was to read a paper before the Society, in brief words, and said that he was amongst his friends and required no formal introduction.

Dr. Osler, after expressing the pleasure he felt in being again with the members, presented a paper upon Aneurysm of the Abdominal Aorta, and said he chose that subject as being one upon which he had recently been working and, therefore, freshest in his mind. He began by recalling the fact that Vesalius had diagnosed the condition clinically a hundred years before it was demonstrated by post mortem examination. He reviewed the cases which had occurred in St. Bartholomew's hospital during a long series of years, as recorded by Bryant, and then considered in detail those cases which had fallen under his own observation.

Dealing with the diagnosis, he laid it down as a principle, that one must be actually able to grasp the tumour, as such conditions as hysteria and anæmia might readily simulate aneurysm. Not all conditions which were diagnosed as aneurysm were in reality so. One of the commonest errors, he said, was to mistake a throbbing aorta for aneurysm: but no

pulsation, however forcible, no thrill, however well marked, justified the diagnosis, unless there was a definite tumour, which could be grasped and had an expansile pulsation. He referred, as a source of error, to the "preternatural pulsation in the epigastrium," as described by Allan Burns, which was met in many neurasthenic conditions, especially in women.

The main causes of Abdominal Aneurysm as of other forms were syphilis and strain; it was a condition of early adult life; and the cases were assigned to the proper decades in demonstration of that fact.

The two main symptoms associated with the condition were those of pressure and of pain. The pressure might be upon the vessels leading to the lower extremities with corresponding results, even leading to gangrene, or upon the spinal column, with or without erosion of the bone. The pain was agonizing, and the lecturer described, in vivid terms, the devices to which the patients would resort for its amelioration. Another common and early symptom was vomiting, and cases were cited in support of that fact. Yet another sign was "intermittent claudication," temporary lameness or loss of power in the muscles of the lower extremity.

The usual issue of the condition was rupture, and cases were cited to show that it might occur into the duodenum, the transverse colon, the pleura or into the retroperitoneal tissues. Another result was embolism of the superior mesenteric artery with infarcts of the intestines.

The prospect of benefit from treatment was not good, yet they should have resort to any measures, which might promise success. Dr. Osler had not seen any special results from the usual medicinal remedies, and he advised seeking the assistance of the surgeon. He had some experience with the injection of gelatin, whilst the patient was at rest in bed, but he had seen the best results from the introduction of wire into the cavity. Indeed, several cases to which he referred had been distinctly benefited by that procedure. The operation was harmless and easily performed, it could be done with a local anæsthetic, and he had never seen a case in which the patient's chances of improvement had been impaired.

The discussion which followed the address was shared in by Dr. Adami, who cited cases from the Royal Victoria hospital; by Sir William Hingston, who recalled his experience in the Hotel Dieu, and by Dr. Mills, who drew several illustrations from his experiments upon lower animals. A vote of thanks was tendered to Dr. Osler upon the proposal of Dr. Shepherd, seconded by Sir William Hingston, Dr. F. W. Campbell and Dr. Mills. After the meeting an informal reception was held, and refreshment was taken.

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THE MORBID ANATOMY AND HISTOLOGY OF PULMONARY TUBERCULOSIS IN RELATION TO ITS GENERAL PATHOLOGY AND CLINICAL MANIFESTATIONS.

BY

G. SIMS WOODHEAD, M.A. (Cantab), M.D. (Edin.),

Professor of Pathology in the University of Cambridge, England.

When the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis did me the honour to invite me to give one of this series of lectures, I felt that I had little time in which to prepare any lecture worthy of the occasion. I was just in the midst of the work of our term, and as I had to start for your shores as soon as the term ended, I knew that until I got onto the Atlantic (whose vagaries at this time of the year have to be reckoned with) I should be able to give but little time or attention to the thinking out of the details of my address.

The opportunity of visiting your great country thus presented to me was, however, so tempting and the prospect of meeting my many valued friends on this side so attractive that I determined to give you the results of some of my own work on the relation of the morbid anatomy and histology of phthisis to its general pathology and clinical manifestations. I was all the more tempted to follow this line of thought from the fact that in recent years the pessimistic views of the physician—based on the pessimistic foundation laid by the earlier pathologists—though gradually giving way before the evidence afforded by more recent research are hard to scotch and still more difficult to kill. It will, of course, be under stood that the advancing and advanced lesions found in cases of pulmonary tuberculosis that had succumbed could not but prove fatal. The presence of Virchow's caseous tubercle in all its fearful and destructive simplicity seemed to leave no hope for the recovery of any patient affected; and what the pathologist found one day, the physician accepted the next. It was perhaps natural that this should be the case, but the evil wrought by this pessimism was incalculable, and I

Lecture delivered under auspices of Henry Phipps Institute, Philadelphia, Dec. 29th, 1903.

think that most of those of you here to-night, who have given even a small amount of attention to the subject will agree with me that this view as to the incurability of tuberculosis had more influence than any other single factor with which we are at present acquainted, in interfering with the successful treatment of a disease that should, I venture to say, now be looked upon as amongst the most curable—when taken early enough, treated under proper conditions, and for a sufficiently long period.

If modern pathology had been responsible for nothing beyond the effect that its findings have had on our ideas concerning the course of the tubercular processes, especially in the lung, it would have more than justified its claim to be one of the most important, if not the most important, of all the sciences ancillary to medicine.

I am here to speak as a pathologist, and it is possible, nay, even probable, that some of you may be of opinion that I claim too much for my subject; but of this I am convinced—that the more closely the pathology (including morbid anatomy and histology as read in the light of recent bacteriological discoveries) of tuberculosis is studied in the cases that come under the observation of your physicians, the greater will be the influence of the work ultimately done in this Institute. The cure of the individual must, naturally, be the most pressing and important claim on all those engaging in this work, but it must be remembered that there are far wider reaching questions behind and beyond this—the early detection of the disease, if treatment is to be most successful; and the prevention of the disease, if the community is to derive the greatest benefit from the warfare now being carried on; and these must be worked out, not in the ward merely, but also in the side-room and in the laboratory.

I have said that it is only during recent years, that much has been heard of the curability of pulmonary tuberculosis, but it must be borne in mind that after the first shock produced by the observations recorded by Rokitanski and by Virchow had lost some of its force, a number of observers drew attention to the fact that in the lungs of old people who had succumbed to diseases other than those of tuberculous origin there could often be found local apical thickening of the pleura or, still more frequently, deeply pigmented irregular scars which were evidently the result of some considerable loss of tissue at an early period of life. My attention having been drawn to this fact, I took the opportunity, after I had been appointed pathologist to the Edinburgh Royal Infirmary, to make a careful search for evidence of what I might speak of as healed tubercular lesions, and I found that in old people such evidence was to be found in at least one out of every three who came to the post-mor-

tem table. Nay, more, I soon became firmly convinced that even in those cases that succumbed to tubercular disease there was usually more or less marked evidence of a sturdy war waged by the tissues against the invading tubercular process, and that in most cases the tissues failed in their endeavour to check the advancing process simply because they were placed under disadvantageous conditions, not as the result of the action of the specific *materies morbi,* but as the result of interference with their nutrition. The cod-liver oil treatment, so long the most successful of all, had its foundation in the belief that this substance served some special nutrient or therapeutic purpose, as a result of which the tissues were strengthened and were thus enabled to resist the attacks of the disease-producing factor; whilst the present-day treatment of tuberculosis is founded on a similar belief that fresh air, good food, efficient excreton of waste products, rest (opportunity for building up the tissues, food that will supply energy with least draft on the tissues), will enable these tissues to withstand the attacks of the tubercle bacillus in the first place; to kill it in the second, or at any rate to render it harmless; and finally to assist in the removal not only of the bacillus, but of the dead or degenerated tissue in which it had managed to effect a lodgement.

It is perhaps superfluous at this stage to show slides of the tubercle bacillus but some few of you may not have seen these microbes—low vegetable parasites—so fully studied by Robert Koch in his epoch-making work sent out from the Royal and Imperial Institute of Public Health in Berlin. (A series of slides illustrating the form and relative size of the tubercle bacilli as found in experimentally produced tuberculosis, in the tuberculosis of the human subject, and in phthisical sputa was then thrown on the screen.) For some time after the appearance of Koch's wonderfully lucid and convincing paper a certain number of sceptics,—perfectly justifiably, no doubt, on account of the extreme novelty of the ideas so promulgated,—attempted to throw doubt first on the accuracy of the observations and then on the reliability of his conclusions, but it may now be fairly claimed that Koch's work has, in the main, withstood the attacks even of the ablest of his critics. There seems to be no manner of doubt that we may accept Koch's tubercle bacillus as the *causa causans* of tuberculosis. Here, however, let me put you on your guard, as I guard myself, against a mistake into which it is very easy to fall: *i. e.,* that because a tubercle bacillus comes near, or even into contact with, the human or brute body, an attack of tuberculosis necessarily results. This bacillus must make its way not merely onto a free surface, but into the tissues of the body, before it can do any harm; nay, more, it seems that, in the human body at any rate, the tissues must be damaged or weakened and a special mode of entrance into

these damaged tissues must be prepared for the tubercle bacillus before it can work its dire effects. During the course of my work my hands have for weeks, months, or even years, been almost daily soiled with tubercle bacilli; I have no doubt that I have swallowed many, and that some have made their way into my respiratory tract; but none of these has done me much, if any, harm because whilst I have been working with them I have carefully protected any cuts on my hands and have refrained from working when I have been run down in any way, and especially when I have been suffering from any catarrhal processes in the respiratory or alimentary tracts.

From my experiments on animals I am satisfied, as are all experimenters, that tuberculosis is never produced without the presence and action of the tubercle bacillus, but my own observations on human patients especially on children, confirm those of many others, that unless the tissues are weakened or damaged—*i. e.*, the soil is prepared—there can be no reaction between the bacillus and the tissues which can end in the production of a tuberculous lesion. The exciting cause must be present, but in the human subject at any rate there must also be one or more predisposing causes. In the lung this predisposing cause appears to be catarrh; that is, a congestion of the vessels of the mucous membrane, accompanied by some slight proliferation of the epithelial cells lining the air vesicles, with an increased pouring out of fluid and an emigration of a larger number of white blood-cells. In the air vesicles of the lung, especially when expansion and contraction are weak or imperfect,—*i. e.*, at the pulmonary apices in adults, near the root of the lung in children (and in monkeys), beneath areas of adhesion between the pulmonary and costal pleuræ, and at the base of the lung when there is adhesion of the pleuræ in this position, especially if the liver be adherent to the under surface of the diaphragm, there is usually an accumulation of catarrhal products in which if bacilli gain entrance and are allowed, undisturbed by any great amount of movement, to multiply, to produce their special products, and to cause those degenerative changes with which they are found to be associated casually. Once give them a footing under these conditions, and they are in a favourable position to produce tuberculosis.

It is evident from what has already been said that the tubercle bacillus may reach the lungs by way of the air-passages; that they make their way to those points at which there is least movement and in which, as a rule, there is some degree of collapse, often associated with a condition of catarrh—*i. e.*, a condition in which the protecting layer of epithelium has been damaged, the lung tissue then being in the same position as the hand on which the epithelium has been damaged. From

this coign of vantage they may be distributed, still by the air channels, to almost every part of the lung, setting up a condition of tubercular catarrhal pneumonia characteristic of the later stages of the so-called acute phthisis. In many cases this acute phthisis is nothing but an acute secondary pneumonic tuberculosis following a rapid distribution of tubercle bacilli embedded in the caseous material derived from a chronic primary focus. It should be noted that in these cases caseation of the epithelial tissues usually takes places at a comparatively early stage of the process.

So much for the distribution by the air-passages. We now come to a second system of distributing or infection channels which appears to play a prominent part in every case of tuberculosis, chronic or acute —the lymphatic system. Between the cells of the tissues and especially around such structures as the blood-vessels, even the smallest of them, there is a kind of network of channels or spaces (the lymph spaces) that has sometimes been compared to the system of pores seen in a sponge. Such terminal spaces gradually lead into small definite channels and finally into tubes or vessels of considerable size and with distinct walls —the lymphatic vessels. These tubes lead to little filters known as lymphatic glands. Much of the fluid that in the process of nutrition passes from the blood-vessels passes into these lymphatic spaces, and from this fluid the tissues take up their nutrient material, throwing back into it their waste or effete products. The fluid throws some of these waste materials back into the blood, but certain of the more solid particles pass to the lymphatic vessels and by them are carried to the lymphatic glands, where the coarser particles are filtered out, and where, too, certain changes appear to be effected even in the composition of the fluid lymph.

Let me give you an illustration. If a patient tattooed on the forearm could be examined within a few days of the operation, small particles of pigment would be found in the tissues (cells in and lining the lymph spaces) at various points between the tattooed patch and the elbow, and even above the elbow. If the patient were to live for some months and then were to die, it would be found that, except at the tattooed patch and in some little hard nodules in front or at the side of the elbow or under the armpit, there is no pigment, but in these latter positions black, red, or blue pigment, according to the material used by the artist, has accumulated, often in considerable quantities, so that it can be seen with the naked eye.

Most of you know how the glands under the arm swell after vaccination. This is because the lymphatics of the arm carry the vaccine virus to the glands, they are irritated by the vaccine matter, there is prolifera-

tion of the cells, swelling of fibres an accumulation of fluid, and enlargement of the whole gland.

Exactly the same arrangement of lymph spaces, lymph channels and lymphatic glands is met with in the lung. There are spaces around every vessel and bronchus and between the finer tissue elements: these open into lymph vessels which in turn convey the fluid to the lymphatic glands situated at the root of the lungs. It is important to bear this arrangement of the lymphatics in mind; for we find that in tuberculosis of the lung the tuberculous virus is carried from the air vesicles by the lymphatics to the lymphatic glands. The tubercle bacillus or its products appears to exert some irritant effect directly upon the cells lining the lymph spaces, as a result of which, just as in the air vesicles, we have a proliferation of the cells and a formation of new tissue sometimes resulting in caseation, or the formation of a soft pultaceous mass, which is supposed to resemble cheese: at others—and this is a point to be specially borne in mind—in the formation of fibrous tissue.

As regards this formation of fibrous tissue, it may be well to point out that the most marked feature in chronic tuberculosis is the formation of fibrous tissue in the pleura immediately above it: and it is an easy matter in most cases to determine roughly the comparative duration of the disease at any part of the lung by noting the thickness of the pleura and of the interlobular septa; so that in a chronic phthisis in which the patient succumbs rapidly as the result of an acute consolidation, there is usually well-marked thickening at the apex; this gradually shading off to the lower part of the upper lobe and being represented merely by a thin film of fibrin over the lower lobe.

Where the tubercular process specially affects the adventitia or outer coat of the blood-vessels and bronchi, this fibrous tissue formation is often exceedingly well marked. In some cases it would appear almost as though the tuberculous tissue, at first of a type which may be compared to an irregular granulation tissue, may become converted into fibrous tissue directly; but it may be accepted as a general statement that where the tubercle bacillus manages to obtain a footing, it brings about a certain degree of caseation; but that in the immediate neighborhood of this caseous material which in some sense appears to act as a foreign body, the fibrous tissue is partly at any rate the result of the action of this foreign body upon endothelial cells or connective tissue cells, which, after all, must be looked upon as cells of an endothelial type.

Wherever this fibrous tissue is formed, it affords evidence of a good reaction on the part of the tissues and therefore of the powers of resistance: it is by the formation of this fibrous tissue around the areas of caseation that they are cut off and the lesion localized. Where

this localization is incomplete, as it often is, the bacilli pass along by them to the lymphatic glands, here giving rise to proliferation, caseous degeneration or fibrous tissue formation, just as is the case along the lines of the lymphatics. Having once reached the glands at the root of the lung, the process may, for a time, be localized: but unless the conditions are favourable and what we may call the reaction of the tissues is good, the tubercular virus may be carried from point to point, successive glands in the neighborhood localizing the disease for a time, but ultimately allowing of the passage of the virus to other organs.

In connection with the invasion of lymphatic glands by the tubercle bacillus, it should be noted that once a lymphatic gland is affected, the course of the lymph circulation may be diverted; and again that any area usually drained into a lymphatic gland becomes much more readily affected when that gland becomes tuberculous than before this takes place: I think I have seen cases in which the lymphatic gland appears to have become caseous or cheesy before the aera drained by it has become tuberculous. It is somewhat difficult to prove this; but I show you a specimen in which we have an exact localization of a tuberculous area to that part apparently drained by a small gland at the root of the lung.

The third method of transportation of the tubercle bacillus from one point of the body to others is by way of the blood-vessels. For some time it was supposed that the acute miliary tuberculosis that so frequetly supervenes on the more chronic processes, was something essentially different from the larger primary lesions: but the identity of the two sets of lesions had been accepted even before Koch had pointed out that the exciting cause of the two processes was the same. It was difficult to determine, however, how the tubercle bacillus made its way from the primary lesion to every organ and tissue of the body. Weigert was able to point out that in a case where there was tuberculosis of the wall of the thoracic duct, the bacilli were carried from this lesion to the veins, from which they passed through the heart and thence were distributed to the capillaries of every part of the body. In these capillaries, blocking them and becoming attached to the endothelial lining, they again set up a proliferation in and around the capillary vessel, as a result of which the minute tubercles met with in this condition soon became manifest to the naked eye. (Section shown.)

It must be remembered that these different methods of spread of the virus seldom occur alone. Whenever the air passages are affected we find, invariably, that the tubercle bacilli make their way into the surrounding lymph spaces, there giving rise to the proliferative and regenerative changes already described. Similarly, we find that in acute

miliary tuberculosis there is, in each nodule, evidence of the invasion of the lymphatics by the tubercle bacillus, and it is because we have this affection of the lymphatics that the various lesions ultimately become localized. It is only through them that we can have a stimulation and proliferation of the connective tissue cells, new formation of fibrous tissue, and localization and absorption of the diseased tissues. I mention these methods of spread of the disease because in the various kinds of tuberculosis met with by the clinician, we have ample evidence that one or other predominates at different stages of the disease.

It may be well here to indicate, briefly, the history of a case of pulmonary tuberculosis, especially as by referring to this history in its various phases we may be able to gather how it is that, at one stage the disease may be perfectly curable, but how it is that, as the disease advances, the chances of permanent or even partial cure are more or less rapidly diminished. I wish you to pay special attention to the periods at which the various processes come on; and also the times during which they are prolonged; otherwise it may be difficult to understand why a patient who has had phthisis for perhaps two or three years and appears to have lost very little ground indeed, should suddenly begin to go down hill rapidly and die within a few months.

It has already been mentioned that in a case of phthisis apical catarrh is the first condition noticed, this being accompanied by congestion and followed by some consolidation the result of proliferation of the epithelial cells, such cells gradually accumulating and coming to fill the air vesicle. This breeding-ground for the tubercle bacillus may gradually spead in area; but it will be found that the bacilli causing degeneration of the epithelium make their way into the surrounding lymph-spaces, there, especially if the tissues are well nourished, giving rise to the formation of fibrous tissue.

If at this stage the patient be placed under favourable conditions, of nutriment, of rest, so that the waste products of the body may be carried away regularly and systematically, the reaction of the tissues is so complete that the dead patch is practically surrounded and cut off; the bacilli remain inactive in the dead mass; or they may even be killed. The degenerated tissue is absosrbed very gradually and there may be complete "cure," especially when the initial lesion has not reached any very great size. The loss of respiratory surface is so slight and the reserve so great that the patient may be considered to be practically normal again.

If, however, the patient be not placed under favourable conditions, or if after a short period of treatment he returns to his old life and habits, this focus of dead material may ultimately break through the

surrounding layer of limiting tissue and a further considerable patch of tubercular consolidation may be the result. (Slide shown.)

In most cases, especially if there be intermittent congestion of the surrounding tissues, the degenerated or caseous material may become softened, and it is during this stage of softening that secondary infection goes on perhaps most readily.

Let us suppose that this mass cut off from the bronchus with which the air vesicles were originally associated, extends to the wall, perhaps of another bronchus; as it advances in this wall it cuts off the vascular supply, first that of the peribronchial tissue and then that of the submucous tissue, until at last by destroying the vitality of the bronchial wall it brings about a process of ulceration; then the tuberculous material with its contained bacillus may immediately be carried into the air passages, whence it may be expectorated almost entirely, though in most cases a certain proportion of the softened material along with the bacilli is carried to other areas, where fresh tubercular catarrhal pneumonia is induced, and the whole process may be repeated but upon a more extensive scale. This process may be again repeated—at each repetition, larger and larger areas being affected. It is evident that in such cases as those just described, the loss of lung tissue may be very great indeed, whether it be broken down or not—*i.e.*, whether the lung be merely consolidated or whether it be cavitated. Even the great reserve mentioned above is unequal to the draft made on it, and even should the patient be patched up for a time he must face the fact that he is not cured and never can be; though under proper treatment and with great care he may continue to lead a useful if not very active life.

It is sometimes difficult to understand why the small hæmorrhages so characteristic of the early stage of phthisis should occur so frequently especially when we remember that in the tuberculous areas themselves the blood-vessels are practically obliterated. It must be remembered, however, that around each tuberculous area the conditions of the vascular circulation are somewhat altered, owing to the fact that some of the vessels are closed; as a result of all this a collateral circulation must be set up and maintained. Moreover, an increased quantity of blood is required to meet the wants of the proliferating tissues; but we find that the hæmorrhages usually take place as the result of some extra temporary strain and are an indication of local changes. It will be noted that in some of the specimens I show that we have a systematic invasion of the lung commencing at the apex and gradually working toward the base. It will be noted, moreover, that the basal processes are always more extensive, that the consolidation is more diffuse, and the degeneration more rapid than at the apex; that we have in fact a more mark-

ecly caseating catarrhal type in this position than at the apex. The whole of the lower lobe of the lung may be invaded in a few weeks, especially when the resisting powers of the tissues have been gradually broken down by overwork, general ill health, want of sufficient nutriment, imperfect oxidation of the blood and accumulation of waste products in the tissues.

These factors do not act at once; but at work over considerable periods they gradually wear down the resistance of the tissues, with the result that the tubercle bacillus finds an easy prey wherever it finds lodgment.

In addition to the catarrhal process, there is in most of these rapid cases of basal phthisis a more acute pneumonic condition, the air vesicles in the spaces between the catarrhal pneumonic patches in such cases being filled with a fibrinous exudate. This process seems to be associated with the alterations in the circulation, but partly to be the result of a secondary infection: wherever it occurs, however, it is a serious factor in the production of consolidation, and always accelerates the rapidity of the process, patients so affected, as a rule, dying quickly.

It will be seen at once from this rough description that a physician has a considerable period during which he may hope to treat his patient successfully, but that at any moment, almost, a series of more acute changes may supervene after which he has no right to expect recovery; though it must be acknowledged that in a few cases patients do recover even after such expectation is no longer justifiable. Nature is always more powerful than we give her credit for, and often helps us when we have given up all hope. This, however, is something we should never presume on, and the importance of the early diagnosis of tuberculosis can scarcely be too keenly appreciated, nor that of early treatment.

We now come to a phase of the question that has been recognized by many physicians but one that is not so generally recognized by the patient. A patient who has once suffered from tuberculosis must remember that although he may be partially protected (though of that, however, we as yet know nothing), he does not enjoy any definite immunity against future attacks of the disease: and it is absurd for any one to decry a system of treatment because it does not confer a lifelong immunity to the disease against which it is directed. I show you a specimen in which there is an old scar in the lung, from which all tuberculous material had disappeared leaving a little nodule of pigmented fibrous tissue surrounding a few particles of calcareous matter. That patient suffered from phthisis many years ago and had recovered; but

you will see that throughout the remainder of the lung we have now the lesions of an acute miliary tuberculosis; the patient succumbed to an infection in all probability of entirely new origin; though it is possible that it may have been the outcome of some old but latent lesion either in the lung or in some other part of the body, from which tubercular virus has made its way into the blood-vessels and thence has been distributed throughout the body.

Such a case as this to my mind, though exceedingly encouraging in many ways, should lead us to insist that patients even after discharge from sanatoria where the treatment has been successful, should continue the treatment, perhaps in a modified form, throughout their whole life; as it is impossible to state when a patient can come back to the old conditions of life with impunity, in fact, one may lay it down as a general proposition that it is only as we insist on the improvement of the conditions of life wherever such improvement is possible, that we shall be able to diminish the morbidity as apart from the mortality, of tuberculosis. It is here that the medical officers of health, and sanitary officers can play so large a part; and that an institution of this kind can do so much to spread a knowledge of the importance of light and air in the home and in the workshop, of sufficient food even though plain, of the danger of prolonged periods of overwork, except in the case of the very strongest; and of the importance of periods of rest during which the organs and tissues of the body may not be built up, but may get rid of the waste material that accumulates so rapidly during periods of active exertion.

This brings us to a very important question indeed. Although I have every faith in sending patients who can afford it to places where they can comfortably remain in the open air and where there is plenty of light, I think there is a danger, and a very great danger, of overlooking the fact that the open-air treatment may be carried out at the patient's home, and that so far as this branch of the treatment is concerned it is not so much a matter of getting a good climate as of getting pure, fresh air for the patient.

There can be no doubt that the sanatorium treatment has been successful, not because of any special climatic conditions associated with each institution, but because whatever the climate the patient has been encouraged to live practically in the open: diet, exercise, and rest, of course, being carefully attended to. All acknowledge that a sanatorium treatment is of inestimable value in tiding over the difficult and dangerous early period of the disease; but it will be still more valuable just in so far as it teaches the patient to carry out in his own home the principles and methods adopted in the sanatorium. It always seems to me

that a patient will be much more likely to have faith in the efficacy of the methods used, if they are carried on in familiar surroundings and under conditions of climate, etc., to which he is usually exposed. If he is sent to a special climate resort, he is apt to think that the success of his treatment depends on something special in the climate; and whilst this is of course the case to some extent, in so far that in a bright, dry, bracing climate the open-air treatment is more agreeable and a cure affected somewhat more quickly perhaps, there is no fundamental difference between the two, the closer you can bring your patient to his every-day manner of life during treatment the more likely he will be to carry out your instructions after discharge from the sanatorium.

I may say that at Cambridge, a place little above the sea-level, situated in the fen district where fogs are frequent and sometimes very dense, great success has been attained in the open-air treatment of phthisical patients in the Addenbrookes Hospital. I mention this fact for what it is worth; but I think that it bears out the contention of those that the method of treatment is in most cases more important than the exact place in which it is carried on.

(Lantern slides were shown to illustrate a number of the points mentioned. Most of the sections were made through the whole lung, and were thin enough for examination under a quarter-inch objective).

Ladies and gentlemen, those who are responsible for the inception, organization and working of this Institution, have undertaken what most of us consider to be one of the most beneficent works on which men can engage. The endowment is munificent; and as the workers are both capable and enthusiastic, I think that we may look forward with every bright hope to the outcome of the work carried on. But the work to be done cannot all be overtaken even under the favourable conditions that here obtain; and I would ask you not to be disappointed should you not attain all that you hope in the immediate future. There is much quiet and steady spade work to be done. You will, I know, relieve and cure many patients; but you have then touched but the fringe of a great problem. You have to determine the exact pathological conditions met with in individual patients and in groups; you have still much to learn concerning the condition of nutrition, of waste, and of repair; you have physical problems, chemical problems, bacteriological problems and others of the greatest complexity; these can be undertaken only by men skilled in methods and trained in accurate observation. They may have to work for years before they are able to gain results that can be utilized, or that can be brought into a great scheme of knowledge, from which further advances can be made; but we may all entertain the hope, and one well founded, that under honest, persevering, patient investigation

even the most difficult problems may be compelled to give up their solution. Whilst working for the benefit of the individual, we must keep our mental vision fixed on a point beyond; on the possibility of preventing the invasion of the tissues by the tubercle bacillus; of studying the life-history of this organism so that in time as we gain the knowledge of the conditions under which it exists, both outside and in the body, we may gradually so circumscribe its sphere of operations that it may no longer remain a factor of disease especially when we are wise enough to insist on those improved sanitary and social conditions without whose aid the tubercle bacillus even to-day would lose much of the terror attached to its name. I congratulate the Henry Phipps Institute on what it has already achieved: but I hope for it and those associated with it a still more useful, beneficent and brilliant future.

VISCERAL PERFORATIONS—REPORT OF FIVE CASES.

BY

WILLIAM JAMES DEROME, B.A., M.D.

The discussion at a recent meeting of "La Société Médicale de Montréal," upon intestinal rupture, and the autopsy finding, suggested to me the idea of reporting the few cases of pathological and traumatic visceral perforations which have come under my observation during the past eight years.

I shall present the cases in chronological order. Case I. (Surgical Reports, Notre Dame Hospital). In the fall of 1896 the ambulance was called, for a French-Canadian, mortally wounded during a quarrel with Italians. Besides a few unimportant wounds, the victim presented in the left hypochondrium, on a level with the short ribs, a penetrating wound, parallel to the ribs, and having a downward direction. This wound gave but little blood, but through it protruded quite a portion of the omentum, the abdomen was retracted; the patient was conscious and suffered great pain in the abdomen. He refused all intervention at first, but finally consented to the resection of the omentum. Two days later death occurred and the autopsy revealed a perforation of the descending angle of the transverse colon, without any tendency to healing, little or no peritoneal infection, slight effusion in the pelvis, but no fæcal matter. The weapon found a few days later, was a large file with flattened edges and sharpened to a point like a dagger. I must add that the diagnosis of perforation had not been positively made, though it was only natural to think of such a lesion. The treatment was ice and opium.

Case II. Clinique, Hotel Dieu, Paris. Professor Dieulafoy's department; year 1897-98. A young man was carried to the hospital, in a

dying condition, about 4 a.m. Dr. Dieulafoy, informed at an early hour of the arrival of this patient, hastened to the hospital. Upon examination of the patient, a diagnosis of perforation of the stomach or of the duodenum was made. Mr. Kaun, the professor's assistant, was instructed to call in the surgeon and have an operation immediately performed. Dr. Dieulafoy made the following observation: "A man who rapidly passes from a state of good health to an almost moribund condition; anxious face, sunken eyes, profound collapse, following a sudden and grievous pain in the abdomen, *véritable coup de poignard péritonéal*, is not a victim of appendicitis; such a man has a perforation of the stomach or of the duodenum."

Dr. Cazin, assistant to Dr. Duplay, was called upon to perform the operation, the latter being absent. An exploratory incision in the indicated region, disclosed a perforated ulcer of the duodenum, with extravasation of the intestinal contents. The immediate suture of the perforation was followed by a most careful toilet of the cavity. The patient made an uneventful recovery.

Case III. (Surgical Department—Notre Dame Hospital).—During the summer months of 1898, while in St. Joseph's Ward, in the Notre Dame Hospital, my attention was drawn by the house surgeon, Dr. Chapdelaine, to bed No. 9. As I approached, I noticed, a strong fellow, whose look of suffering aroused my interest. I was told that the day before, he had been picked up unconscious on Notre Dame street, near Notre Dame church, having been struck by the shaft of a cart, while riding a bicycle at a considerable speed. I made a hasty examination of this powerful, well built young man, whose moribund appearance was not of good omen. The eyes were sunken, the nose pinched, the breathing labored, as he endeavoured to immobilize the muscles of his already much distended abdomen. The left hypochondrium was more distended than any other part of the abdomen, tenderness in this side was also more pronounced, but nothing could be seen externally, no ecchymosis, nor other signs of injury. The diagnosis of internal lesion had been made. The "internal lesion" proved fatal the same day, and at the post mortem, a tear measuring 1¼ inch. was found in the stomach wall The treatment was ice and opium.

Case IV.—The subject of the present observation is a woman, aged 48. Her digestive history has been bad for more than ten years. She had 18 pregnancies, 13 of which were full term, consequently an exhausted woman. For the past year she has been under my care for digestive troubles, exhaustion and weakness. On December the 30th, 1901, at 2 p.m., a telephone message summoned me in great haste

to attend her. I found her stretched on a bed, where she had been laid a few minutes before my arrival. The apparent state of her health, a few hours ago, had been good, but now she was almost moribund. The face was anxious, the eyes sunken; the patient complained of an excruciating pain in the epigastrium, moaned pitifully, and had a shallow and panting breathing; vomiting had already occurred once Upon examination, I found the abdomen retracted, and of a wooden hardness, "un ventre ligneux," with an area of exquisite tenderness on the right of the median line a little above the umbilicus. The symptoms as a whole, led me to diagnose, without hesitation, a perforation of the stomach or of the duodenum.

The gravity of the case was made known to the family and a consultation asked for. About an hour after, a surgeon entered and hastily made the diagnosis of simple indigestion, but upon further examination we finally came to the same conclusion, that of a perforation. There still remained the question of treatment. I proposed an operation, substantiating my opinion by a remark of Dieulafoy, that operations performed within four hours from the time of perforation, are almost always, if not always successful.

At first food was vomited, then mucus, then bile, and finally fæcal matter. At the end of 24 hours the abdominal tympanities was extreme. There was obstinate constipation, flatus even was absent, but the patient hiccoughed almost continuously. Peritonitis was present but of a localized nature, since pain was, at no stage of the disease, general over the whole abdomen, being restricted to the original seat of the lesion. A large inflammatory swelling filling up the entire right hypochondrium and extending to a point below the umbilicus, was soon observed. Three days after the consultation I met the consulting surgeon who made enquiries as to the condition of the patient. I detailed to him the progress of the malady, that there was present a localized peritonitis and that the sick woman might perhaps pull through. The event justified my prediction and a month afterwards digestion was fair, but still difficult in so far as the intestinal digestion was concerned.

The patient, as well as myself, have often heard over the right hypochondrium, a silvery sound such as water makes when flowing through a tube whose diameter is suddenly narrowed at any one spot. This metallic noise persisted for several months. On the night of the 10th of March, 1902, there occurred an attack of acute pulmonary œdema which I naturally referred to the gastro-intestinal affection. A rise of temperature some days later, was followed by the discovery through a general examination of an area of dulness in the region of the umbilicus which I attributed to a peritoneal lesion. Things went on in an indif-

ferent manner until the month of September, when I was again called to see the patient, who had been suddenly seized with repeated vomiting, following a violent emotion. This time I thought I had a case of simple acute indigestion, for two hours hardly had elapsed since she had dined. I prescribed a laxative which was retained a few hours but vomited in the evening. There were no stools, nor even flatus. On examining the abdomen a swelling of the umbilical region was made out, more marked in the right hypochondrium, and intestinal obstruction was thought of. On palpation, near the spot where nine months previously I had detected a perforation, I made out a fairly solid mass, very dull, with the area of peri-umbilical dulness already mentioned spread over a greater surface. The suspicion of the presence of a neoplasm, of tuberculous adhesions, of volvulus or of an enterolith was thought over and rejected for that of intestinal obstruction through inflammatory peritoneal bands.

Another consultation, this time with Dr. Parizeau, was decided upon, and the case being urgent, an immediate operation was proposed and accepted. A laparotomy was performed the same evening, September 12th. On opening the abdomen, the intestines were found to be very much injected. They ballooned so much through the incision that they were with difficulty thrust aside, until Dr. Parizeau could explore the abdomen near the mass in the right hypochondrium. This mass was with difficulty freed from its very firm adhesions and exposed. It consisted of the great omentum folded on itself, and tightly bound to the intestines by a close meshwork of inflammatory bands. These adhesions were carefully broken up, and a cicatrix of the duodenum was revealed, that of the perforation of the month of December. At the same instant, an abscess, buried under a fold of mesentery, burst spontaneously, inundating the abdominal incision with a flow of pus of about half a litre. This pus was carefully sponged away, and the abscess cavity, now exposed, showed a fistulous trace extending to a point near the perforation. The intestinal adhesions were then broken up, the abdominal cavity flushed out with large quantities of normal saline solution, and the abdomen closed. Unfortunately the operation was a failure, the patient dying the same night. From this case one may deduce the following conclusions. 1st. This patient, who had, during 9 months, successfully overcome all the dangers of infection, of peritonitis and of pyæmia, could have without doubt undergone a laparotomy and a suture of a recent perforation, since the operation might have been performed within the first four hours. 2nd. That a physician may be ignorant of surgery, but that no surgeon should be ignorant of medicine.

Case V. Gall stone colic: Spontaneous rupture of the gall ducts:

Operation: Recovery. On Nov. 17, 1903, I was called by my colleague, Dr. Roux to see Mde. L.—, æt. 31, mother of 2 children and at that time 3 months pregnant, I report this case with the permission of Dr. Roux. Mde. L. was suddenly taken, on the evening of the preceding day about 9 o'clock, with severe pain in the epigastrium, radiating towards the left sub-clavicular region, followed by collapse so marked that the last rites of the church were administered. Some hours afterwards the patient vomited, but there were no stools nor passage of gas. The attending physician, judging the case to be one of exceptional gravity remained all night at the patient's bedside. On arriving towards 9 o'clock next morning, I found the sick woman in bed half reclining on pillows, her knees drawn upon the abdomen, her face pinched and anxious, her eyes sunken, moaning pitifully; pulse 146, small; temp. 96.4°F. On inspection, the abdomen was fairly distended, the upper segment on percussion was resonant. There was dullness in the flanks and illiac regions: signs of fluid. There was tenderness on palpation extending over the whole abdomen, but more especially marked in the right hypochondrium and in the region of the appendix. Muscular rigidity was also marked on the right side. The slightest abdominal palpation made the patient scream with pain. I was finally able to map out exactly an area of tenderness covering the entire right side of the abdomen with intense hyperæsthesia of the sub-hepato gastric region. So intense was this hyperæsthesia that the least pressure caused as much pain as more marked pressure would in any other spot.

The patient having had symptoms of cholelithiasis I made a diagnosis of biliary colic and the symptoms of perforation having occurred at the same moment as the gallstone colic, I concluded that there had been a rupture of the biliary ducts, and to account for the appendicular symptoms, I added a probable appendicitis. The diagnosis was, therefore, gall stone colic with rupture of the bile ducts and probable appendicitis.

Immediate surgical intervention was advised, but rejected. On leaving, I told Dr. Roux to insist on the importance of immediate operation. In case such were persistently refused I advised to apply ice, to inject morphine and above all to hold an autopsy the next morning.

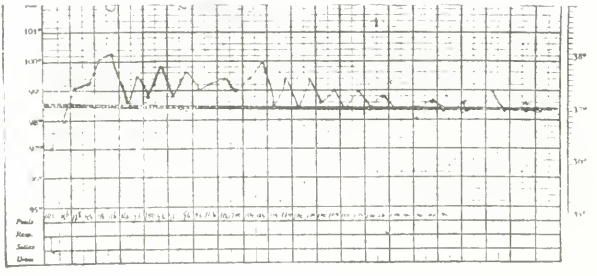
Dr. Roux at length convinced the family of the gravity of the case, and about noon the patient was taken to the Notre Dame Hospital and placed in Dr. Mercier's hands. After examining the case an immediate abdominal section was decided upon. Dr. Mercier was at first in favour of opening the abdomen in the median line, but Dr. Roux remarked, that, in view of the diagnosis of a lesion of the liver and of

the appendix, the median incision would be too far removed from both regions, and that perhaps it might be better to begin with the appendix and then go higher up if the circumstances warranted it. This was done.

The classical incision was made, the appendix found to be normal, but bile began to well up through the wounds. There was no infection of the intestines and no adhesions. A large iodoform gauze drain was introduced and the abdomen closed.

A second incision was then made in the region of the gall bladder, the cavity irrigated with normal saline to remove the bile, and the fluid carefully sponged up. The gall bladder showed a normal distension, and consequently was not ruptured. A more careful examination showed a rupture of the common bile duct, buried in a fibrinous plastic exudation with marked injection of all the neighbouring region and extensive adhesion of the great omentum and parietal peritoneum. On palpation no trace of calculi was found. The gall bladder was, nevertheless, sutured to the abdominal wall and opened, a glass drainage tube was inserted to drain the abdomen. Through the fistulous opening of the gall bladder there have passed since the day of the operation 39 gall stones (the fistula still persists), all smaller than a pea, some having well marked facets.

Although the operation was performed at least 15 hours after the perforation it was a success. The post-operative results were of the mild-



est. The patient's appetite is good, there is no more pain except from the digestive tract. This trouble can be perhaps referred to the state of pregnancy which has continued uninterrupted.

Dieulafoy, in a recent clinic insists on the frequency with which calculous cholecystitis and appendicitis co-exist. How then can we explain the absence of appendicular infection in spite of the presence of non-equivocal signs of the malady? We know how intimate are the relations, how direct is the communication existing between the portal circulation and the right ovarian circulation, and consequently the peri-

ovarian region. Could we not then think of a communication between these two regions through the nervous system, and invoke reflex action to explain the appendicular symptoms which are almost always, if not always, met with in cases of calculous cholecystitis? At any rate this is the explanation I would give of this syndrome which I have always made out in cases I have operated on for gall stones, and on which I have deliberately made an exploratory incision without having ever found any lesion of the appendix. It is true then, in the case under consideration, the appendix was not removed and the question of a catarrhal appendicitis remains open for discussion.

Conclusions—The symptoms as a whole, as set forth in these observations enable one to make an almost positive diagnosis of a lesion of such a nature as to justify surgical intervention.

The post-operative results of case V, which is probably unique, prove that even a somewhat tardy operation is not to be rejected, although all these cases demand immediate interference.

The profound collapse inevitably found accompanying these cases is in no wise a contraindication

Immediate intervention is imperative and must not be delayed until the patient is the victim of a general peritonitis or profoundly septic and moribund.

Expectation is more to be feared, than active interference.

TUBERCULAR PERITONITIS.

BY

L. Coyteux Prévôst, M.D.

The peritoneum, like all other tissues which enter into the composition of the human body, may become the seat of the pathological process to which the name of "inflammation" has been given. Here, as well as elsewhere, the inflammation is caused originally by the presence and harmful influence of pathogenic micro-organisms. Whatever may be the nature of the infective agent, whatever the family to which it belongs may be, it is in all cases the *fons et origo* of the disorder, the primordial cause of peritonitis.

This proposition, to my mind absolutely indisputable, shows how utterly irrational is the classical classification of peritoneal inflammation into idiopathic and symptomatic peritonitis. We know perfectly well nowadays what to think of the condition formerly called inflammation *a frigore*. Cold and traumatism, cannot by themselves create the inflammatory process, as we know them; they are never anything

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else than indirect factors of the disease, and their action is limited to the local disorder they produce in the intimacy of the tissues, inducing a state of receptivity, a lack of vital resistance, which render the soil favourable to the attacks of the germs which constantly swarm in the neighbourhood.

We must bear in mind that the peritoneum covers all the abdominal viscera; the liver, the stomach, the intestine. These viscera shelter all sort of micro-organisms; the staphylococcus, the streptococcus, and especially the bacterium coli are there, waiting for favourable conditions to commit their misdeeds. Let those virulent germs be allowed to enter the abdominal cavity during laparotomy, or be poured into the abdomen following the perforation of the stomach, of the gall bladder or of a purulent collection: Is there any wonder that the peritoneum, this susceptible serous membrane, should immediately respond, becoming the seat of inflammation whose severity will vary according to the activity of the virus?

But, outside of these cases in which the enemy is caught, as it were, *fiagrante delictu*, there are others the explanation of which is just as rational. A physiological disturbance may supervene in the intestinal functions, such as, for example, a transitory attack of indigestion, constipation, vitiated alimentation, or even the sudden impression of cold, immediately the germs contained in the intestine enter into play and determine inflammatory reaction in the peritoneum which is momentarily deprived of its habitual means of defense.

Viscera are not the only dens wherein pathogenic germs are swarming; there exists, as you are aware, conditions in which the blood carries infective agents which sooner or later will catch some points of the organism in a state of physiological inferiority. This is what occurs in cancerous and tubercular diathesis. One day or other, what I have just supposed to take place in the intestinal tract will occur with regard to the chyliferous vessels, and the peritoneum protected until then by its normal physiological condition, will become exposed to the noxious action of the virus should a fortuitous disorder happen to put it in a state of receptivity. Your remember Max Sculler's celebrated experience? He produced a contusion on the joint of a guinea pig and then injected in the blood a culture of Koch's bacilli; immediately the contused articulation became tubercular.

But enough upon these etiological considerations which, after all, only rest upon hypothesis. What we must accept as a certain fact is that there exists a peritonitis, of a tubercular nature, characterized by the presence on the peritoneum of a more or less considerable number of typical granulations, small, hard or having already undergone a

beginning of softening. The serous layer, congested, thickened, has lost its normal lustre and shows fresh lymph on the inflamed surfaces. The intestinal cells are frequently agglutinated and the entire mass of the intestine may form a firm tumour retracted against the spinal column. Caseous abscesses are often met with and in some cases, fibroid formations are found, showing that here as well as in the lungs, there exists sometimes a tendency towards a spontaneous favourable termination. Ascites is frequent, the fluid being yellow or bloody, encysted by adhesions or free in the general cavity. All the organs contained in the abdomen may be studded with miliary tubercules which are then found everywhere, on the tubes, the ovary, the uterus, the stomach, the liver, the intestine. The omentum, thickened, puckered and rolled up, forms sometimes a firm, elongated tumour lying transversely across the upper part of the abdomen.

Now, where does that tuberculosis of the peritoneum come from? Is it derived from a tubercular affection of the tubes or the uterus; has the pathogenic agent directly been brought by the circulation, or, was it originally situated in the intestinal tract? I have neither the time nor the desire to lay stress on this side of the question, and I hasten to proceed to the far more practical examination of the symptoms and the treatment.

Tubercles may exist all over the peritoneum without giving rise to any symptom. It happens in the abdominal cavity what we sometimes meet in the lungs where tubercles may be smouldering for a long time with all the signs of perfect health, until the day when a sudden hæmoptysis will come and reveal their unsuspected presence. This latent tubercular peritonitis is really far from being uncommon. Osler has dwelt upon this latency of the disease, the eruption sometimes taking place without the least symptom. Kelly says that in 80 per cent. of his cases, he has observed good colour, good appearance in patients having good family history whose peritoneum was covered with tubercular granulations. Courty cites the case of a patient offering the appearance of perfect health three weeks before her death.

In the month of May, 1903, a young girl, aged 19, was sent to me from Almonte. Three weeks before her entrance to the hospital, she had been complaining of abdominal pains, accompanied by digestive troubles. She looked extremely emaciated, her face was flushed, and she had a hectic appearance. Temperature: 105; pulse weak and frequent. No cough; nothing appreciable in the lungs. The abdomen was distended, tympanitic and tender on pressure. No ascites. Some hard lumps could be felt in the upper quadrant of the abdomen. She was put to bed and soon seemed to improve. Feeling much better,

she insisted on going home. She left the hospital ten days after her entrance and died three days after getting home, with meningeal symptoms. There is no doubt about this case being one of tubercular peritonitis; still, until one month before her death, she never complained of anything else than slight disturbance of the digestion, without any abdominal symptoms whatever.

During the summer of 1902, Mrs. S. come to me from Renfrew. Four years before, she began to suffer from a pain in the right ovarian region which resisted all treatment. She looked well and was complaining only of dysmenorrhea and of that pain in the right side. Laparotomy was done. A great many tubercles were found on the peritoneum, the small intestine and the posterior surface of the uterus. Right ovary was cystic; tube adherent; appendix adherent to the posterior surface of the cæcum. Appendix and appendages were removed. The patient was discharged perfectly well.

Mrs. McL., seen in consultation with Dr. Mair, Cobden. Age 45, nulliparous. Had always been in good health until ten days before, when she was taken with severe abdominal pains and frequent vomiting. Slight tympanitis; no fever; visible increased intestinal peristalsis accompanied by crampy pains in the umbilical region. Obstinate constipation. Laparotomy was done and a large quantity of serous fluid tinged with blood issued. No tubercles were seen on the peritoneum. To the right of the median line the omentum was pulled down towards the pelvis by strong bands of adhesions. Deeply in the right iliac fossa, a small band was found forming a cord stretched across the coils of the small intestine. The peritoneal surface of the ileum showed a congested line due to the constriction produced by the band which was divided with scissors. Another band spread out from the small intestine to the pelvis, incarcerating the appendix, which after being freed was removed and found only slightly congested. In that region, numerous tubercular granulations were seen disseminated in every direction. Patient is now perfectly well.

These cases, although not very uncommon, must still be considered as exceptional and patients suffering from tuberculosis of the peritoneum usually present some symptoms which attract our attention towards the abdominal region. Ascites is frequent and in some cases, the only appreciable symptom, and the existence of fluid in the abdomen in the absence of heart, liver or kidney diseases, must always make us think of tuberculosis, even if the patient complains of no pain, has no temperature and offers no other sign whatever, which we would naturally expect to find in cases of peritoneal inflammation.

Last spring, a Polish girl, aged 20, was sent to me from Renfrew.

Servant girl, no tubercular antecedents. One year before, she complained of dyspepsia which lasted for several months and was accompanied by swelling of the feet and legs. Ascites developed. She was tapped by her physician and twelve quarts of serous fluid was removed. The effusion returned and she was sent to the hospital. She looks well, has rosy cheeks. Considerable œdema of lower limbs. Enormous ascites. Pulse, 112; embryocardia. Hardly any abdominal pains, but severe backache extending downwards. Slight abdominal tenderness. Temperature normal. Appetite good. She was tapped and six quarts of amber coloured serous fluid removed. The next day the abdomen began to fill up again; respiration became accelerated and temperature for several days reached 103 every night. Laparotomy was done. Peritoneum very thick. Abdomen contains a large quantity of serous fluid. Omentum adherent to parietal peritoneum. Numerous tubercular granulations were found covering the whole abdominal cavity, peritoneum, liver and intestines. Temperature fell after the operation, went up again in the evening for a while, but gradually disappeared. Ascites did not return. Was discharged several weeks afterwards feeling well. I have heard of her lately; she is in perfect health and has resumed her work.

In some cases, ascites is absent but there is generally quite a perceptible enlargement of the abdomen due to a certain amount of meteorism and also to the thickening of subperitoneal tissues which produces on the finger a doughy sensation, a sign considered by Edebohls as characteristic of tubercular peritonitis.

We must not therefore lose sight of the fact that in several cases patients suffering from tubercular peritonitis come to the consultation complaining only of digestive troubles or merely of enlargement of the abdomen with or without ascites. The diagnosis then is rather difficult and always very puzzling. The only particular which is liable to arouse our suspicion is the long and obstinate duration of the symptoms, in spite of prolonged and appropriate treatment.

Typical cases manifest their nature by the following symptoms: Abdominal pains, generally without special localization, but sometimes simulating appendicitis with which tubercular peritonitis has after been mistaken. Vomiting is not uncommon. There is always a certain amount of tenderness of the abdomen which is tense, thickened and containing more or less fluid in its cavity. Gastric disturbances are very frequent and in the majority of cases, constitute the initial symptom. There is fever with evening exacerbations, the temperature varying between 99 and 100 and, in some cases reaching 103, 104. Fever is not always present, and, out of 11 cases, I found 5 entirely

apyretic. But when it exists, elevation of temperature with evening exacerbations is a precious sign, especially when such course of temperature is associated with tympanites and effusion in the abdomen. Ascites is rarely large, although at times the effusion may be considerable. In the observation cited above, the abdomen contained more than twelve quarts of fluid. The fluid is generally amber coloured, but it may be tinged with blood. Still, the bloody character of peritoneal effusion is always very suspicious as it occurs most usually in malignant diseases of the abdominal cavity.

In cases where there exists a sacculated effusion, the differential diagnosis may be somewhat embarrassing, the disease resembling then ovarian cyst or ascites due to affections of the heart or the liver. But, careful percussion will show that in cardiac, renal or hepatic ascites, there is resonance in front and dulness in the flanks; in ovarian cysts, dulness in front and resonance in the flanks, and, in sacculated tubercular peritonitis, dulness all over. Diarrhœa which associated with evening temperature is so frequently the sign of tubercular enteritis, seems to be rare in tuberculosis of the peritoneum. On the contrary, constipation was present in 50 per cent. of the cases observed by Kelly who also found painful defecation in 20 per cent. The same author lays great stress upon pain in urination which he contends to be a most characteristic symptom. Out of several cases, I have observed this symptom only once, which shows that it must not be of very frequent occurrence.

Like all cases where there is some impediment in the portal circulation, dilatation of subcutaneous veins if often observed, but contrary to what occurs in cirrhosis, where collateral circulation is seen in the upper quadrant of the abdomen, in tubercular peritonitis, it is situated below the umbilical region.

Tumours are often felt in palpating the abdomen when the quantity of the effusion does not prevent satisfactory examination. These tumours are due to masses formed by the agglutination of intestinal coils. In other cases, they are formed by the omentum curled up in irregular nodules and always situated, according to Musser, in the upper quadrant of the abdomen.

I wish to draw your attention to the fact that, out of 11 cases the detailed history of which I have before me, 10 were observed in women and none of these women had ever been pregnant. Would there be any relation between sterility and the predisposition to tuberculosis of the peritoneum? This is quite possible when we consider on the one hand the frequency of the involvement of Fallopian tubes in these cases and, on the other, the well known predeliction of infectious dis-

cases for organs in abnormal conditions. The same thing is observed in ectopic gestation which is supposed to occur generally in tubes previously diseased and in the majority of cases, is preceded by a more or less prolonged period of sterility. The greater frequency of tubercular peritonitis in women, and also the previous disturbances of genital functions for a certain time before the breaking out of the tubercular symptoms, lends, I fancy, some likelihood to the correctness of this proposition.

Treatment:

It is really remarkable how strange errors do sometimes occur. De Graafe, one day, thinking he had to deal with a cataract, performed a preliminary iridectomy to remove the supposed opaque lens. The latter, to his great surprise, was not diseased; it was simply a case of glaucoma. However, the patient recovered his eyesight and the treatment of glaucoma by iridectomy became classical, thanks to that error of diagnosis.

In 1862, Spencer Wells, who could not help seeing ovarian cysts everywhere, one day opened the abdomen, believing he had to do with one of these cysts. He was mistaken, and laparotomy revealed tubercular peritonitis, accompanied by ascites. The patient recovered from the operation and also from her disease. Much later, in 1884, Koenig proposed laparotomy as a method of treatment of peritoneal tuberculosis. But, it is only within the last few years that this mode of treatment became definitely adopted by surgeons and, to-day, the cases of tubercular peritonitis treated and cured by the opening of the abdomen are simply innumerable.

I have personally treated a great many cases by laparotomy, but I have been able to follow only 11 of them after the operation. This number is comparatively small I know, satisfactory as the results may have been, since 7 were cured out of 11; however, it is so much added to the statistics cited by others, namely Koenig, who had 30 per cent. of permanent cures; Aldibert, 82 per cent.; Ochsner, 84 per cent.; Parke Syms, 30 per cent.; Roersch, 75 per cent.; Maurange, 80 per cent.; and finally, Galvani, who in a remarkable article published in "La Revue de Gynécologie et de Chirurgie abdominale," cited lately 111 cases in his own practice with 86 per cent. radically cured or improved by laparotomy.

The fact that some patients remain permanently cured is shown by the personal experience of observers who have published cases of patients feeling perfectly well several years after the operation. Schueling's patient was living and in good health fifteen years after; Stelwag's,

thirteen years, and Spencer Wells' woman, in whose case the error of diagnosis became the origin of the actual surgical treatment of the disease, was still living twenty-two years after the operation.

Moreover, in cases where a second laparotomy was deemed necessary, the tubercular lesions—and some of them very extensive—found at the first operation proved to have entirely disappeared. Ashfeld, Keetly, Schmidt, have published several observations of that kind. Halsted operated once upon a patient affected with tuberculosis, who several months later died of pneumonia; the autopsy showed complete absence of tubercles. Herslag performed laparotomy on a woman whose abdominal cavity was studded with confluent granulations; eight months after, she died of pulmonary phthisis, and at the autopsy the peritoneum was found perfectly clean; no trace of granulations.

Galvani, who seems to have had in these cases more experience than anybody else, insists on the necessity of doing a second or even a third operation when improvement does not seem definite after the first laparotomy. Well, in the course of a subsequent operation, he has repeatedly noticed the total disappearance of tubercular masses which existed previously in the abdomen.

Naturally, here, the same thing occurs as it does in all other questions pertaining to the medico-surgical domain; the enthusiasm of the majority is not shared by a certain number, who deny the efficacy of this mode of treatment, in spite of the astounding results published everywhere. Thus, Brockgrevink is far from being convinced. He has observed 22 cases of peritoneal tuberculosis treated by laparotomy and of 17 without. Out of the 22, 9 died, 8 out of those who had fever, and 1 out of the apyretic. Out of the 17 cases treated without laparotomy, 14 recovered. Oheler treated 39 cases without operation, and 21 got well. Fargas, at the Congress of Moscow, in 1897, contended that spontaneous cure occurred in 50 per cent. of cases and that the opening of the abdomen was not necessary.

On the other hand, Treves has published the following compared statistics:

Cases treated by laparotomy:—	Mortality, 3 per cent.
	Improvement, 80 per cent.
	Permanent cure, 30 per cent.
Cases treated without:—	Mortality, 19 per cent.
	Stationary, 71 per cent.
	Cured, 9 per cent.

The conclusions which naturally arises from the above more or less contradictory statistics, is the undeniable fact that tubercular peritonitis is susceptible of spontaneous cure, but I do not think that it militates

against the uselessness of laporatomy when we take into consideration the rapid and brilliant results obtained by this mode of treatment employed in suitable cases, that is, above all, at the early stage of the disease, or at least, before the patient is actually moribund. In these favourable cases, twenty-four, forty-eight hours after cœliotomy, the fever disappears, appetite returns, all painful symptoms vanish and in a few weeks, the patient is well enough to resume her occupation.

Of course, I know perfectly well that we are bound to meet with a certain amount of failures, and the good results will necessarily vary with the different conditions which are liable to occur. For instance, we cannot overlook the influence of the age, the form and the duration of the disease and especially, the numerous complications such as fever, involvement of the lungs and the character of the pathological lesions existing in the abdomen. I quite willingly believe that the results of our intervention are eversomuch more satisfactory when we have to deal with the miliary rather than the caseous form of tuberculosis, but until we are in possession of reliable clinical signs indicating the exact nature of the process, we should, in my opinion, persist in opening the abdomen as early as possible, that is, as soon as we have acquired a satisfactory presumption that there exists tuberculosis in the peritoneal cavity.

I do not contest the fact that several cases get well spontaneously, but I cannot agree with those who contend that we should always wait, to see what nature will do, before resorting to the surgical treatment which after all, besides being entirely devoid of gravity, will at any rate serve to enlighten the diagnosis in obscure cases. Why should *waiting* be here the proper course to follow, when the most elementary experience has repeatedly taught us the deplorable consequences of procrastination in other pathological conditions?

And finally, when we consider the difficulty, in the majority of cases, of placing our tubercular patients in such a situation as will ensure efficacious results from purely medical treatment, such as irreproachable hygienic conditions, over-feeding, prolonged and absolute rest, I am compelled to come to the conclusion that laparotomy is the treatment of choice in tuberculosis of the peritoneum, because experience has proved that it is curative in the majority of cases, provided it is resorted to before the progress of the disease has made it impossible for the patient to be cured by any surgical or medical treatment whatever.

And then, I consider the mere fact of opening the abdomen as altogether sufficient, without it being necessary to resort in the meantime to antiseptics, irrigation or the removal of pelvic masses. The supposed primary genital focus should not be attacked unless suppurating.

If adhesions are not extensive, they may be separated with care, but when the intestines are adherent in a bunch, they should not be touched.

And no drainage; the tract of the drain may remain open indefinitely. Kelly has shown temperature to drop to normal in the second week without drainage, and in the ninth only, when drainage is used. He has abandoned it for more than five years. If in a few weeks or months, the disease shows signs of recurrence, we should not hesitate to follow Galvani's example and reopen the abdomen a second and even a third time.

Should it be our good fortune to have to deal with a recent case, accompanied by ascites, we are justified in expecting a definitive and permanent cure, and even in cases where alteration of the general state and elevation of temperature induce us to suspect that we have perhaps to deal with the caseous form, here again, although our prognosis should be reserved, we have good chances of obtaining considerable improvement and even permanent cure, as several observers have cited examples.

We are not yet in possession of satisfactory theories to explain the means of healing after abdominal section in tubercular peritonitis, but whether the penetration of light and air in the abdominal cavity has any influence or not upon the disappearance of the lesions, we have ample reasons to believe—and this is my final conclusion—that the mere opening of the abdomen is all that is required to obtain the necessary results. It is, at any rate, the first and the most important step in the treatment which, subsequently, should be continued and directed according to the classical rules governing the treatment of tuberculosis in general.

MIGRATION OF NEEDLES FROM THE INTESTINES INTO SURROUNDING TISSUES.

BY

JAMES BELL, M.D.

J. C., æt. 30, was admitted to the Royal Victoria Hospital, January 3rd, 1902, having been sent from a distant town, with a diagnosis of appendicitis, of a subacute character. He gave the following history:—He had always enjoyed the best of health until May, 1901, when he began to suffer from obscure pains in the abdomen. During the whole summer and autumn he had suffered more or less from these pains and felt generally "not quite well." He attributed his ill-feeling to overwork and irregular meals. About the middle of November he was taken suddenly ill one morning about an hour or an hour and a half after breakfast with vomiting and severe pain across the abdomen.

Up to this time he had had no vomiting and the bowels had been regular, but he had had a poor and capricious appetite. Vomiting continued for two days and was very abundant, and he was laid up for four days. He then went about his work for two weeks, when he had another attack similar to the first; vomiting was very profuse and the pain was more localized towards right side. This attack came on about five in the afternoon. He then had no bowel movement for four days and kept on vomiting whenever he attempted to take food for the next eight or ten days. The pain was so severe that he had to have hypodermic injection of morphia. He recovered from this attack and was free from pain and vomiting for two days, when he went for a drive and began vomiting again and had to go to bed, vomiting each time he took food or drink. He had a great deal of nausea and the pain was increased by vomiting or bowel movements. These conditions persisted until his admission to hospital on Janury 3rd, 1902.

He stated that his physician had told him that during all his illness he had not had any elevation of temperature. One month before admission he weighed 175 lbs., two weeks later 155 lbs., and on admission 135 lbs. He had therefore lost 41 lbs. in a month. There had never been any blood or anything unusual in the stools, but on one occasion there was a streak of blood in the vomited matter. He had always been a man of regular habits, had no venereal history; had been married three years and had one child. His father, mother, three brothers and one sister were alive and well, and the family history was in every respect excellent. His heart, lungs and kidneys were sound and the blood count normal.

Test meals were given and stomach lavage carried out, but nothing abnormal was discovered. From his admission on the 3rd of January until the 30th of the same month, 27 days, he was kept under observation. The symptoms were, vomiting, nearly every day, pain on right side of abdomen and an obscure and indefinite tenderness over the appendix region. There was slight resistance over the upper part of the right rectus muscle, but there was only occasionally a very slight rise of temperature.

I was not satisfied with the diagnosis and hesitated to operate, and I had both Dr. Stewart and Dr. Martin see him with me on several occasions and we all concluded that there was, at least, a considerable element of neurosis in the case. Finally, on the 30th of January, I removed his appendix. I found it about two inches long and adherent to the cæcum at its distal extremity. On examination after removal it was found to be chronically thickened and to contain a little mucus in which colon bacilli were the only micro-organisms found. All his

symptoms subsided and he made an uninterrupted recovery and he was discharged on the 25th of February, 25 days after operation. Nothing was discovered at the operation beyond the diseased appendix and the results of operation seemed to be convincing, that the appendix was the source of all the trouble, though I could never explain how it had caused such anomalous symptoms.

On the 2nd of June, 1903, 15 months after his discharge, he was readmitted with practically the same symptoms and history as he had on the first admission. He stated that he had been fairly well for four or five months after leaving the hospital (until the end of June), and then the same train of symptoms developed, beginning with a sudden severe attack, but on the whole more gradually than before. During these four or five months in which he considered himself fairly well he had attended more or less to his work, but had suffered somewhat from pain beneath the scar and about the lower ribs on the right side. All his organs were found normal; there was now, however, a more marked and definite tenderness at the right costal margin, about the point of the 9th rib. He was under observation from the 2nd of June until the 3rd of July, with symptoms in all respects similar to those observed when he was in hospital, before the removal of his appendix: vomiting, obscure pain, pretty constant, but with varying intensity, loss of appetite and tenderness over the abdomen.

Dr. Martin again saw him with me and could only suggest that there was a marked neurosis and no definite organic lesion discoverable. Finally, I proposed an exploratory operation, to investigate the gall-bladder, bile ducts and pancreas.

I opened the abdomen on the 3rd of July at the outer margin of the right rectus, the incision extending upwards from the upper end of the previous incision. I found some adhesion about the pylorus and liver margin and, while investigating these, my finger was pricked by a needle. Further investigation showed that the point of the needle lay free in the stomach and the eye end was imbedded in the liver, having passed through the anterior surface of the pyloric end of the stomach. The point was pushed through the stomach wall, grasped by forceps and removed. It was a darning needle, about four inches long, much corroded and the upper part of the eye gone. I then proceeded to explore the region of the cæcum and found a mass of swollen mesenteric glands extending from the brim of the pelvis up to the pancreas. Manipulating this mass and tracing down the duodenum, I discovered another needle, with the end lying free in the duodenum just to the right of the spinal column. I pushed this through the duodenal wall and removed it with forceps. This proved to be a sharp

shawl or hat pin without the head and about four inches long. I then proceeded to make a more systematic exploration, beginning with the stomach itself. My incision was so far over towards the right side that I was unable to deliver the stomach through the wound, so I withdrew it partially and proceeded to palpate it, in situ. I found at the cardiac dilatation of the stomach a long hard mass, evidently a foreign body, which I concluded was another needle. In endeavouring to work it towards the pyloric end of the stomach my finger was again pricked by a needle in the gastro-colic omentum. I turned my attention to this and removed an ordinary sewing needle about two inches long. On returning to the stomach I could not, now, find the body which I had been manipulating before and as I was able to palpate the stomach most thoroughly, and could not find the supposed needle, I concluded that it must have passed on and out through the pylorus. Moreover, I felt that having already found so many needles the skiagrph would probably discover more and that another operation would be necessary. I therefore closed the abdomen without incising the stomach wall.

The subsequent history of this patient was uneventful except for the history of the foreign body which I had failed to remove from the stomach. He complained of pain, occasionally, sometimes in one part and sometimes in another, but mostly in the left side, and below the level of the umbilicus. On the 8th of July, five days after the operation, he was skiagraphed with negative result. On the 17th, a foreign body was obscurely seen and located over the left sacro-iliac articulation. Several skiagraphs were subsequently taken and showed a linear body which varied in position and direction from time to time, but was never very distinct. On the morning of the 26th of August he had some pain in the rectum when at stool and found that there was some blood on the toilet paper. The stool was examined and a triangular piece of glass found about $3\frac{1}{2}$ inches long and $\frac{3}{4}$ of an inch in width at the base.

His abdominal wounds were now healed, and as he remained entirely free from symptoms and was feeling quite well he was discharged on the 29th of August, and I have not heard from him since. All his bowel evacuations were examined after the operation, as it was felt that the foreign body might be passed at any time.

I, personally, made the most careful enquiry about his previous history from himself, his wife, his physician (the latter by letter only), and from some friends and acquaintances, without discovering anything to show how or why the foreign bodies should have found their way into the positions in which they were discovered. There was no per-

sonal or family history of neurotic manifestations. He had always been an active, healthy and successful man. He began life as a clerk in a dry goods store, then learned the carriagemaking trade, and finally had become an agent for carriages and implements. He professed to be unable to account for the presence of these foreign bodies in any way and declared that he had never swallowed them either accidentally or otherwise; that he had never been in the habit of putting needles in his mouth, but admitted that he had, when working as a carriagemaker been in the habit of putting tacks in his mouth, and would not have been surprised to have found that he had swallowed one or more of them, although he declared that he had no knowledge or suspicion of ever having done so.

Personally, I have no doubt but that he had swallowed the needles ! As for the piece of glass, it was in his stomach on the 3rd of July, 30 days after his admission to hospital and passed through the alimentary canal, being found in the stool 23 days later. Although not a total abstainer, he was never a drunkard, and he had only used morphia for the relief of pain on the advice of his physician. Incidentally it may be mentioned that on his arrival at the hospital on the 3rd of June, 1903, he was deeply narcotized from the use of tablets of morphia which he said had been given him by his physician. He showed no signs at any time of being addicted to the use of a narcotic or other drugs.

RADIUM.

BY

E. RUTHERFORD, F.R.S.C., F.R.S.

Macdonald Professor of Physics, McGill University.

The term Radio-activity is now applied to a class of substances like Uranium, Thorium and Radium, which possess the property of spontaneously emitting radiations capable of passing through metals and through substances opaque to ordinary light. The first discovery on this subject was made by Becquerel, in 1896, shortly after the discovery of Roentgen-rays. He found that the compounds of uranium possessed the property of naturally emitting penetrating rays, similar in some respects to Roentgen rays.

The photographic action of uranium is extremely feeble, and a day's exposure of a photographic plate is required to produce an appreciable impression. The rays from radio-active substances possess the same property as Roentgen rays of discharging electrified bodies. The effect

Abstract of lecture with experiments, delivered before the Montreal Medico-Chirurgical Society, 8th January, 1904.

can be very well illustrated by the ordinary gold leaf electroscope. The gold leaves ordinarily collapse very slowly, but on bringing a radio active substance near them the electroscope rapidly loses its charge, and this is shown by the rapid collapse of the gold leaves. This discharging action of the rays is the best method of studying the properties of the radio-active substances.

Thorium was found by Schmidt and Mme. Curie to be about as radio-active as uranium. In the course of an examination of the uranium ores, or pitchblendes, by the electrical method, Mme. Curie found that some kinds of pitchblende, notably from the Joachimstahl mine in Bohemia, possessed a far greater discharging power than was to be expected from the amount of uranium present. She concluded that pitchblende must contain another radio-active substance of greater activity than uranium or thorium. As a result of a chemical examination of pitchblende, Mme. Curie found that two new radio-active substances were present in small quantities. These two new substances were called polonium and radium. Radium has been chemically isolated, and is found to be an element of heavy atomic weight with a definite spectrum. In chemical properties it is closely allied to barium. Its activity is over one million times that of uranium and, in consequence, it exhibits all the phenomena produced by uranium to an intense degree. Using a few grains of pure radium bromide, a photographic plate is immediately blackened and a gold leaf electroscope instantly discharged.

Radium exists in pitchblende in the proportion of about one part in a million. The cost and difficulty of a separation of a small quantity of radium is thus very great; the value of radium is at present about ten thousand times that of gold.

Radium bromide is feebly luminous in the dark. The radiations emitted from it are for the most part invisible and only manifest themselves when they are transformed into visible light by the action of a suitable substance. A Roentgen ray screen, or screen of zinc sulphide, or villemite, is very suitable to show the strong phosphorescence set up by the rays.

The rays from radium are of three kinds, known as the α β, and γ rays. The writer found that the α rays consisted of a flight of positively charged particles, consisting probably of either hydrogen or helium, projected with a velocity of about twenty thousand miles a second. These rays are very readily absorbed and are stopped by a sheet of note paper and in passing through a few inches of air.

The β rays are more penetrating and consist of negatively charged particles projected with a velocity of over a hundred thousand miles

per second. The β particles are the smallest bodies known to science, and have a mass of 1-1000th part of the mass of the hydrogen atom. They are readily deflected by a magnetic field, and have been shown to be identical with the cathode rays produced in the vacuum tube.

The γ rays are of an extraordinarily penetrating character. They readily pass through several inches of lead or of iron and are very similar in properties to Roentgen rays.

Sir William Crookes devised a simple little instrument, called the Spinthariscope, which shows in a beautiful manner that the α rays consist of a flight of particles. A trace of radium is placed near a little piece of cardboard, covered with a layer of zinc sulphide. The zinc sulphide is rendered luminous by the α rays, and, on examining it with a lens, the luminosity is found to be not uniform, but to consist of a multitude of scintillations coming and going with great rapidity. This effect is due to the luminosity produced on the screen by the impact of the projected atoms or α particles. Each particle has a sufficient energy of motion to produce a visible flash of light when it impacts on the screen.

In addition to these three types of rays, radium also emits a large quantity of heat and, in consequence, its temperature is always several degrees above that of the air surrounding it. A pound of radium would emit heat energy at the rate of about 1-15th of a horse power, and would keep up this rate of heat emission for probably hundreds of years without any appreciable change.

Radium also possesses another very important property. It continuously produces from itself an emanation or gas, which is strongly radio-active. This gas, which is produced in minute quantity, is chemically inert but condenses at a temperature of liquid air. The emanation can be removed from radium by heat or by solution. The activity of the radium emanation is not permanent but decays in time, falling to half value in about four days. It is capable of being carried from point to point with a current of air and may be stored like a gas in an ordinary gasometer. The emanation possesses the remarkable property of exciting activity on all bodies near it. A body, made active in this way, behaves as if it were covered with an invisible deposit of radio-active matter. Like that of the emanation, this excited activity is not permanent, but disappears in the course of a few hours.

Although the emanation is given off in minute quantity from radium, it possesses a marked heating effect. It can be readily deduced that, if a cubic centimetre of the emanation were collected in a glass tube, the powerful radiations from it would melt down the glass tube containing it. One pound weight of the emanation would initially give out energy at the rate of about ten thousand horse power and, while

its radiations lasted, would emit an amount of energy corresponding to about sixty thousand horse power days. A few pounds of the emanation would thus supply energy sufficient to propel a steamer across the Atlantic.

It has been mentioned that the emanation is freed from radium by heat or solution. The emanation, so removed, gradually loses its activity, but at the same time the radium is again producing the emanation from itself and, by the time that the separated emanation has lost its activity, a fresh amount of emanation can be derived from the radium.

In order to explain the remarkable properties exhibited by radium and also by uranium and thorium, Mr. Soddy and the writer have advanced a view that the radio-active substances are undergoing atomic disintegration. All of the processes occurring in radio-activity are unaffected by great changes in temperature or by any physical or chemical agency. In this respect, they differ greatly from ordinary chemical changes in which temperature exercises a very marked influence. It is supposed that a certain small fraction of the atoms of the radio-active elements are at any moment unstable, and that each unstable atom throws off from itself an α particle. The system left behind, which is changed in chemical properties, is again unstable and projects another α particle, and this process continues through five or six well marked changes. On this view the emanation from radium consists of the radium atom minus one or more α particles. The matter which produces excited activity is in turn derived from the expulsion of an α particle from the article of the emanation. On this view the energy given out by radium is derived from the atom itself. The energy is latent in the atom and is released during the processes of successive disintegration.

We are thus led to the view that radio elements are able to emit, weight for weight, an amount of energy enormous compared with that released in the most intense chemical reactions. Since the emanation is unstable it cannot consist of any known kind of matter. It is possible, however, that the α particle and the final product of the change, which is not radio-active, may consist of some known kind of matter. If the products of these radio-active changes consist of any known kind of matter, they should always be found associated with the radio-active minerals in the earth's crust.

Now it is remarkable that helium is an invariable companion of the radio-active elements. For these and other reasons, Mr. Soddy and the writer, more than a year ago, suggested that the rare gas helium was probably a product of the transformation of the radio-active elements. This suggestion has recently been confirmed in a striking

manner by Sir William Ramsay and Mr. Soddy, who have found that helium is produced in minute quantity by the radium emanation. It seems extremely probable that the helium is in reality the α particle which is projected from the radium with such great velocity. It thus seems probable that in the radio-elements, we are actually witnessing the slow spontaneous transformation of matter. This process is so slow that, even in the case of radium, probably several thousand years must elapse before any appreciable fraction of the radium is transformed. In the case of uranium and thorium, transformation takes place only at the rate of about one-millionth of that of radium. This process of transformation cannot yet be altered or controlled by any physical or chemical agents at our disposal.

It was early observed that rays from radium produced burns, very similar in character to those produced by the continued application of Roentgen rays. The tissue is in many cases destroyed and the wound takes a long time to heal.

It has been found that the rays are capable of destroying life in caterpillars and mice and that they also have an effect in stopping or retarding the growth of certain cultures of bacteria. The rays have been used with advantage in certain cases of cancer, where the effect is apparently similar to that produced by Roentgen rays. Radium, however, possesses the very great advantage that it may be introduced in a small tube at the exact point required so that the action is to a large extent localized.

It has been suggested that the emanations from radium or thorium might prove useful in the treatment of consumption. The emanation may be inhaled into the lungs, mixed with air, and thus produce an action at the point required. The emanations leave behind them a minute film of radio-active matter, and this, in the case of thorium, would continue to radiate for several days and, in the case of radium, for several hours.

Giesel has observed a very interesting action of the radium rays on the eye. If a few milligrams of radium are brought near the closed eye in a dark room, a sensation of diffused light is observed. This is partly due to a phosphorescence produced by the β and γ rays in the eyeball and retina. It is stated that the blind are able to perceive the sensation of light provided the retina is not diseased.

It must be borne in mind that very little has so far been done with regard to the medical application of the rays and it is by no means certain that the action of the rays would be in all cases beneficial. The effects produced by the rays often do not manifest themselves for several weeks after their application, and experiments, in consequence, must be caried out with great caution.

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THE STUDENTS' UNION.

There are two forces working for the betterment of the conditions under which the students of McGill University live. The one is represented by the Executive Committee of the McGill Union, the other is embodied in the Young Men's Christian Association of McGill University. The work to be accomplished by these two forces is the same; the object to be attained by these two bodies is identical, that is, the students' good, as each conceives it.

The two movements for the creation of a Students' Union began about the same time and at many points they ran together. There was nothing strange then, in the desire and intention, which arose in the minds of many reasonable persons, that the two forces should be combined, that they should proceed upon convergent lines until they united, rather than that the advance should be along lines which were parallel, with the danger that at some future time those lines might ultimately diverge.

As a matter of fact the two movements have not come together; indeed, they are farther apart to-day than they were on the evening of March 4th, when the memorable meeting of graduates was held. It is worth examining the whole situation anew to find where lie the real lines of resistance, whether in the nature of the case or in the opposition of individuals on either side. It may be said at once that the outcome of the meeting of graduates lacked the appearance of spontaniety; the meeting was too well arranged, and it was not made sufficiently clear that the graduates at large who were present, were actually taking the initiative in the admirable resolutions which were finally so unanimously adopted. Again, it is questionable if the earlier conferences, looking to an amalgamation between the Association and the Executive of the Students' Union, were conducted with the highest wisdom. The negotiations appear to have been conducted without much warmth, and it would seem from the correspondence which passed, that both sides were more concerned with discovering new difficulties, than in removing those which all knew were already in existence.

Within two weeks of the meeting referred to, the advisory committee of the Association met and discussed the advisability of entering into an agreement with the graduates, to avoid duplication of work, and it was decided to recommend to the graduates that they should erect a gymnasium, whilst the Association should proceed with their own building, adjacent to and continuous with the gymnasium. They proposed that the Association Hall should be owned by the University and controlled by the Advisory Committee of the Association; that all students should be eligible to membership in the Hall, and that they should have ample representation in its management.

This in effect meant that the graduates should do something entirely different from their original proposal, that the Association scheme should go untouched, and many persons could not understand how an institution owned by one body could be controlled by another. The graduates, after due consideration by a joint committee of the two bodies, felt obliged to decline the proposal, at the same time professing their desire, that some scheme of reciprocity might be discovered.

But the matter did not rest there. Persons detached from either side, whose one aim is the good of the University, took up the negotiations at a more recent date in the kindliest spirit, without, we are sorry to admit, any very satisfactory results. They suggested to both sides that each should contribute an equal amount of money, that it should be vested in nine trustees, three to be appointed by the Association, three by the graduates and three by the University as a corpora-

tion, and that all questions in regard to the construction of the building and the government of the Union should be left to the ultimate control of the body thus constituted. The graduates and the University, we believe, would have accepted this proposal and would have carried it out in good faith. The interests of all would be conserved, the susceptibilities of none would be wounded and no legitimate aspiration or ambition would be repressed.

In view of the present rapid growth of the University and of the plans that are already laid for its development, it is within the rights of the Governors to scrutinize closely any scheme or schemes for one or two unions. The University has not yet attained to its full growth, nor even to its prime of life; it is yet in the lustiness of its youth, though it will attain to its seventy-sixth anniversary next year. The situation of McGill is peculiar. It stands alone in a province and amongst a population to which its ideas are alien. The English speaking population in the country districts, from which in times past it drew most of its students, is diminishing. McGill can never expect to become a Provincial university, so dear to the heart of Ontario, even if that result were desirable. These things which at first sight might appear to militate against McGill are in reality in its favour, and being cut off from purely local influences it must look to the whole of Canada for its field. In short, it bids fair to become the National University.

In view of these facts the future of McGill depends upon the development of a university spirit, which will animate all its parts and incorporate into one living body every element which will serve to nourish and build it up. Its function is not to teach religion, nor to permit of any form of religion being taught which will tend to narrow its sympathies, or to teach social observances, or inculcate the seeking after comfort, unless these can be made to minister to its spirit. It must not be dominated either by a Students' Union or a Young Men's Christian Association.

The advocates of both schemes are animated by the purest of motives, but unless they are in harmony with the University idea the success of one or both would be a calamity. Is the students' union in harmony with the idea? It aims to supply a meeting place for all undergraduates, where the theological students, the medical, science, arts and law students, rich and poor, can meet together on common ground, in their own home; where the university spirit will have free play, as free from open religious sectarianism as from the influence of the secret society which is a sectarianism of another kind.

The ends of the Association also are entirely good. They realize

that the majority of students are away from home and are condemned to spend from four to eight years in boarding houses, and that they stand in need of some wholesome influence. No modern university assumes formal responsibility for the social and moral care of its students, and the Association aspires to fill that want. It is well organized; it communicates with every new student before he leaves home and offers to be of any possible service to him, meets him at the train if he requests it, assists him in securing a suitable boarding house, visits him in his rooms, gives receptions to all the new students during the first week and at intervals throughout the year, and this session it will conduct an employment bureau; it offers the privilege of its rooms to every man in the University; it has seventeen classes for the systematic study of the Bible; it conducts the only religious meetings in the University; it organizes the students in unselfish efforts for others and aims by every means to conserve and develop what it calls a manly Christian character.

A careful reader may wonder how a Medical Journal comes to have so profound an insight into the motives which direct the leaders of the Association, and we hasten to add it was obtained by the easy device of reading the newspapers. At a time when delicate negotiations were afoot for the union of the two bodies, a remarkable outburst of enthusiasm for the work of the Association occurred, and a propaganda started itself synchronously in three newspapers, which had been silent for a long time. From internal evidence it would appear that the writer of these articles possessed deep knowledge of the subject, and that they were in some degree an official presentment of the case for the Association. It is disclosing no private information to say that those proclamations were looked upon as ending all attempts at amalgamation. It was so regarded by friends of the Association, by friends of the union and by friends of both. Nor is it any secret that powerful friends of the University wrought hard for a combined institution. The Chancellor declared his views openly: the Principal is known to be in favour of the plan; one subscriber to the Association offered to quadruple his subscription if they would unite, and another has signified his intention of withdrawing his subscription if they do not unite.

If the graduates cannot make it clear that they raised no artificial obstacles to the amalgamation of two bodies which should come together, then their Hall will never be built; if they make it clear that the Students' Union is designed for the greatest good of the University, it will be accomplished, and they will have proven that any other plan, which could not be brought into harmony with theirs, was de-

signed for some object which was not at least primarily the greatest good of the University.

The ends of the Association, we believe, may best be achieved in a place where all the students can be reached. There is no use calling the righteous to repentance continually Not that all the four hundred students who call themselves by the name of the Association are essentially of the righteous; that would be assuming too much, because there must be some who are actuated by other motives than the desire to attend one or more of the "seventeen classes for the systematic study of the bible" and the other religious ordinances mentioned. The fear is that the Students' Union will draw away from the Association those who now join it for the sake of the social and physical advantages which it offers, and leave behind only the professedly religious.

We have not yet seen it made clear that the Association is open to all students of the University. As we understand the situation, membership is confined to members of the Evangelical churches, and to our knowledge, there are many desirable students who are not members of any Evangelical church, and have no intention of making any such alliance. If persons like Edward Everett Hale, or, to take an example nearer home, Rev. W. S. Barnes, were to become undergraduates—a remote contingency, of course—they would be debarred from membership, though, undoubtedly they would be eligible for admission to associate membership as "persons of good moral character." There is a growing belief that an association which would place such men under a disability might do something yet more unwise.

We appeal to the members of the Association not to limit their usefulness. We appeal to the graduates to approach the problem for a third time with an open mind. The University has need of the Association. The graduates do not ask for the money they have so sedulously collected. They do not desire to raise the suspicion in the minds of subscribers that their money was sought for the propagation of the religious rather than the university spirit. Both are good if kept within bounds, but in the end, unless both come together, the issue will be defined. The one organization will stand out as a religious body pure and simple; the other will stand for the University Spirit. It will be open to all future subscribers, and to former ones who subscribed conditionally to elect which they will support.

PROFESSOR RUTHERFORD AND RADIUM.

The lecture upon Radium, with illustrations and experiments, given before the Medico-Chirurgical Society, by Professor Rutherford, "our Professor Rutherford," as the *Saturday Review*, with unusual

largeness of spirit, calls him, was a mark of great courtesy to the medical profession, and, as such, was highly appreciated. It is no small matter that we should have the latest results in this branch of research at first hand.

Scarcely ten years ago Roentgen and Lenard announced their startling discovery of a light that did not illuminate—invisible radiations from the cathode of the Crooke's tube. In 1896 came the still more important discovery of Becquerel, that certain compounds of uranium and thorium gave off penetrating rays possessing characters not unlike those of the cathode rays of Roentgen. Following close upon this announcement came the work of M. and Mme. Curie on radio-active minerals resulting, as described by the lecturer, in the isolation of two new elements, radium, polonium, and later—possibly— actinium.

These radiations were regarded as electrical in origin—radant electricity— ether waves, or, as a mere manifestation of energy of the order of light or magnetism. It was Professor Rutherford, assisted by Mr. Soddy, who was the first to prove that these Becquerel radiations with their marvellous penetrating power, were due not to ether waves, nor were they any mode of motion, but were substance-matter in motion, and thus connected Thomson's "electrons" and Crook's "fourth state of matter" with the phenomena of the Becquerel rays.

The word "emanation" was first applied to these radiations in the Physical laboratory of McGill, and the thesis that these radiations were matter in motion was for a year or more maintained against the opinions of the Curies and Becquerel and others, who are now convinced of their material nature. Professor Rutherford's position is now recognized and the scientific world has acknowledged that radium, thorium and other of the heavy metals are giving off continuously particles of their substance at a speed that almost approaches that of light.

It was only during the last summer that the form of matter which constitutes a large portion of these emanations was by its spectrum found to be one of the rare gases recently isolated and studied by Sir William Ramsay, namely, helium. Thus it is that one element is found to be giving off not only another form of matter, but also a material something else which has not yet been identified as a recognized element. It would seem as if the researches of Professor Rutherford would lead to a partial realization of the dream of the alchemist, that one form of matter could be transmitted into another. Helium coming from radium is not less miraculous than the change of lead to silver or mercury to gold. The narrow door thus placed invitingly ajar may lead to truths of which the students of the Middle Ages had a clearer perception than those of our own time, who know more and dream less, their imagination being restricted by their having to "prove all things."

It is absolutely contrary to all our notions that matter can give off matter and still remain undiminished, and it is reasonable to suppose that this interpretation is due to non-appreciation of some important factors entering into the case. Again, from Prof. Rutherford's statement it is evident that we have a definite increase in the ponderable matter of the earth, from the action of radium, another fact which, if established, must cause a complete *volte face* of some of our earlier conceptions.

The interest in the epoch-making observations on the properties of this most extraordinary substance becomes, however, most absorbing when we consider their possible bearing on the Pyknotic or condensation theory, and on the allied theory of the genesis of the elements. That the "emanations" are but the evidence of condensation of space-filling primal substance due to the action of radium, and that we may regard these facts as an actual demonstration of the origin of an element or elements seems, in view of the facts, not impossible.

One thing is certain, we must extend the conception of some of our physical laws as applied to our earth, to the universe which, seeing that we are part of that universe is but reasonable. It is impossible to estimate the outcome of this practical intrusion into a realm hitherto recognized only by the daring speculations of advanced theorists.

THE SUBURBAN EPIDEMIC OF TYPHOID FEVER.

That typhoid fever is a water borne disease is one of the commonplaces of medical knowledge, and when this disease makes its appearance in an epidemic form, the Public Health official instinctively turns first to enquire into the nature of the water supply of the affected areas. He may not find—the probabilities, in fact, are that he will not find, typhoid bacilli. Cases, indeed, are singularly rare in which these organisms have been discovered in any large municipal water supply. Already, by the time the incubation period is passed, and attention has been called to the existence of numerous cases of active fever, it is likely that the contaminating organisms have been flushed away. He may, however, find that cases of the disease have occurred in the neighbourhood of the source of the water supply, or that there has been leakage of polluted water or sewage into the main supply, or again that the infection has not been due directly to the water, but to the milk supply of a considerable number of individuals in a district, and, in such cases, he is not infrequently able to demonstrate that there have been cases of the disease at the farm supplying the milk or in the families of those handling it, and that the well water used to cleanse the utensils had become polluted with sewage from cases of infection.

it is in these latter cases that more frequently the bacteriologist is able to isolate the causative organisms from the polluted water. But in cases of epidemic, it is on the water supply that suspicion first falls, and in the cases in which we find that the disease is restricted to those employing a given water supply, whereas, in the immediate neighbourhood where other waters are used, the number of cases of tyhoid shows no increase above the normal, then no sensible man can come to any other conclusion than that the water supply is implicated; and if in addition, he finds evidence that that water is polluted, that it contains microbes indicating sewage pollution, and if, lastly, having determined that there is sewage pollution, he is able to show that typhoid fever has occurred in the district from which that sewage is derived, then it is difficult to see how anyone can reach any other conclusion than that the water supply has been at fault and is the cause of the epidemic.

We here state general propositions. How far are these applicable to the state of affairs existing in our immediate neighbourhood here in Montreal? A grave epidemic disease is present in the districts of St. Henri, St. Cunegonde, Westmount and Mile End. All these districts are really part of our city, separated from it only by municipal boundaries. There is no similar epidemic in Montreal itself.

Is this, in the first place, typhoid fever? In the press attempts have been made to give the impression that it is not. We can only bring forward the following facts, that large numbers of these cases have been brought to our great city hospitals—one hospital has had as many as thirty cases in its wards at a time, another over forty—that the cases there have been diagnosed as typhoid fever; that, so far as we know, whenever the Grunbaum-Widal test has been applied to the blood of these patients, definite agglutination has been obtained; that, where patients have died and autopsies have been performed, the lesions characteristic of typhoid have been discovered. It may, of course, be argued that this last is a coincidence, that sporadic cases of typhoid have occurred in these districts and have been severe, resulting in death. But, while this is undoubtedly a possibility, we have to confess that, so far, no disease is known in which there is typical agglutination of the typhoid bacilli which is not typhoid. These cases have occurred by the hundred: in St. Henri itself there is official information regarding at least two hundred cases. The number is too great and the cases are too widely separated to east and west of the city to be ascribed to milk infection; add to which that the milk runs of the larger dealers—and with such a number of cases only large dealers can be implicated—are not confined to the suburbs, they supply also consumers in the city.

What is remarkable is that all the affected areas have a common water supply. With these facts at our disposal, we imediately turn to see whether this common water supply of the affected districts is above suspicion and we find certain facts which, to put it mildly, give us cause for grave consideration. We find that the intake of this supply, instead of being from the main body of the river water, has, apparently for purposes of economy, been placed at a point which, if not absolutely condemned by the Provincial Board of Health, was regarded by it as distinctly inadvisable, and that the company was notified to this effect. It is situated, namely, in the channel between the Nun's Island and the mainland. When the river is high there is an abundant volume of water passing through the channel, when it is low that volume is greatly reduced. We find further that this intake is situated nearly opposite the mouth of a small sewage-contaminated river, the St. Pierre, which runs through the outskirts of the manufacturing portion of the city. It is true that a dam has been erected stretching across the mouth of this river, but the dam is not complete and does not direct all the current of the St. Pierre downwards along the edge of the river. We find also that, despite the recommendation of the Provincial Board of Health the district of Verdun has, during the last few months, led a new main sewer to open a few hundred yards above the intake, and the configuration of the river bottom here is such that, particularly in times of low water, some at least of the sewage tends to be carried, not along the river's edge, but well into the main stream of the channel, that is to say, towards the intake of the water supply. Nor, so we are informed, has Verdun been free from typhoid fever during the last few months. We learn further that, shortly before the outbreak, the river was singularly low, lower than it had been known to be for long years.

There is thus what would seem a possibility of contamination of the water supply of a large district with infected sewage. There is the sudden development of a grave epidemic of typhoid fever confined to the districts supplied by that water supply.

With these facts at our disposal, we cannot see how any but one conclusion can be arrived at. It is not necessary to wait until typhoid bacilli are actually discovered, for, as we have already stated, the experiences elsewhere are, under like conditions, that these bacilli are not discovered. They were not found, for example, in the main water supply in the recent grave epidemic at Ithaca, N.Y., and yet what sane man with the facts of that epidemic before him, would venture to suggest that the epidemic there was not due to the water supply? Nor can we see any essential difference between the two cases. It is,

therefore, we think, unnecessary and but a waste of time to wait the reports of bacteriologists when those reports cannot materially influence the decision one way or the other. And, for ourselves, we would urge that no further delay should be allowed to take place in dealing with this matter. With these facts before us, the duty of members of our profession is obvious.

The percentage of marks required to pass an examination in the faculty of Arts has been raised from thirty-three to forty. This simple device will put a stop to what the principal called the parrot-cry, that the Arts faculty was not keeping pace with the other departments in the University. A similar proposal was made many years ago, but the Professor of Mathematics, who was also dean, made the sensible observation that two-fifths is not always greater than a third. His illustration that a third of a whale is larger than two-fifths of a smelt was very convincing. With this new regulation the Arts faculty will not only be right, but it will seem to be right.

The number of deaths in Montreal for the year 1903, was 6,941, as against 6,275 in the previous year. Upon the basis of a population of 324,000, the death rate was 21 per thousand. During the months of June, July, and August, the deaths were 469 in excess of the average quarterly number, and this may be attributed to the high infantile mortality occurring in the summer period, which during the month of July ran up to 375. This heavy mortality amongst children is in part a result of the high birth-rate in Montreal, but also in part due to the less easily preventible cause of imperfect sanitary conditions. There is good ground for Dr. Laberge's plea, for a "more scientific harmony between mother and child in the matter of food and nursing."

The association of Dr. Osler with McGill University did not end when he went to Philadelphia and later to Baltimore. He has always maintained a bond with his old friends and his old school, and that connection is now being marked in a friendly way. A small committee is undertaking to receive subscriptions, limited to five dollars each, for a testimonial fund, to which only graduates in medicine will be permitted to subscribe. The intention is to procure a portrait of Dr. Osler for the Faculty room, and a replica to adorn his own walls, with a photogravure reproduction for each full subscriber. Within a few hours of issuing the circular there was sufficient response to insure the success of the plan, which is a testimonial in itself, but any amount in excess of that required for the pictures will be expended in such a

way as Dr. Osler shall designate. It is worth the subscription to see what he will do with it. Contributions may be sent to Wm. Gardner, M.D., 899 Sherbrooke Street.

Montreal is receiving an education in bacteriology, by way of the advertising columns of the newspapers, and every municipal councillor feels qualified to discourse publicly upon the minimum number of "living things," which a cubic centimetre of "potable" water may contain. The B. Coli is now as familiar a figure as a boodler. The recent epidemic of typhoid fever has caused an outbreak of activity amongst laboratory workers, qualified and unqualified, but most of the activity is of the Brownian variety—movement without progress. The ordinary bacteriological examination of water yields certain shreds and scraps of information, which in itself is often misleading and of very imperfect value in arriving at an estimate of the goodness or badness of a general water supply. The Provincial Board of Health has the matter in hand, and we can well await their results, with confidence that they will be based upon a full consideration of all the factors in the problem.

The Canadian Nurses' Association has issued a tariff of charges, which are considerably higher than those previously established by custom. In addition the Association has set forth a number of regulations, which are presumed to be binding upon all who employ nurses. The advice and support of the profession was sought by the Association, but the Council of the Society declined to interfere, on the ground that it was beyond their province to meddle with the management of the Association. It is as difficult for a nurse to specify the minimum wage she shall accept, the number of hours for sleep and recreation she shall obtain, as it is for a physician; her remuneration should depend upon her efficiency, the responsibility she assumes and upon many other considerations which instantly suggest themselves; it will depend ultimately upon the willingness and ability of her employer to pay. It is wrong in principle that all nurses should be paid alike: some are deserving of more, and some are deserving of less than the rates they specify. The reason put forward by the nurses for increasing their charges, namely, increased cost of living, is not a cogent one—in reality it is a reason for reducing them. The thing will right itself. If the nurses are demanding too much—we do not say they are—they will not be employed; the public can do without nurses or doctors either, to a much greater extent than one might suppose.

Reviews and Notices of Books.

THE PRACTICE OF OBSTETRICS. By J. CLIFTON EDGAR, M.D., Professor of Obstetrics and Clinical Midwifery in the Medical College of Cornell University, New York. Roy. octavo, 1,111 pages, 1,221 illustrations. Cloth, $6.00. Published by P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia; Chandler, Massey Co., Toronto.

In this work another good text-book has been added to the rich series produced by American authors within the last few years. Edgar's Obstetrics is a very extensive work, consisting of over 1,100 pages, royal octavo, profusely illustrated and evidently carefully edited.

The work gives evidence throughout of the most painstaking thought in the arrangement and presentation of the subject matter. It is divided into ten parts, the first of which deals with the physiology of the female genital organs; then in alternate sections, first the physiology then the pathology of pregnancy, labour, puerperium, and the newly born are considered, while the tenth and last section is devoted to obstetric surgery.

At the beginning of each "Part" the table of contents of the part in question has been placed, this being in large type and well spaced. Each "Part" is divided into sections, and each of these is in turn headed with a sub-title of its contents. The cross-references in the text are very numerous and greatly add to the value of the work, while the index (46 pages) is most complete. This whole arrangement leaves nothing to be desired on the part of the busy student or practitioner as regards ease of reference.

The consideration of each important subject is concluded with a short practical resumé, which should prove of great assistance to the student saving him from devoting too much attention to the unimportant details.

The section dealing with antenatal pathology, including monstrosities, is of particular excellence, as are also the portions of the work devoted to the physiology and pathology of the newly born.

An unusual section, but of great practical importance, is that devoted to posture in obstetrics.

The sections on pelvimetry and cephalometry, and the portion dealing with the bony pelvis, are very full and cannot but prove of great value to those engaged in teaching and to advanced students of obstetrics.

The medico-legal aspects of obstetrics are fully considered; the subject of rape being enriched with the results of the author's experience in over 600 consecutive cases which have come under his observation.

Dr. Edgar has evidently for years gathered statistics and recorded cases in the institutions with which he has been connected, and from

this valuable material he has drawn freely, thus giving originality and power to the subjects discussed.

Thus in the interesting pages on abortion and immature and premature labour, he quotes from an exhaustive study of such cases in ten thousand labours. In 10,000 cases of labour he found 635 premature interruptions; 242 abortions, before the 12th week; 175 miscarriages, from the 12th to the 27th week; and 218 premature labours from the 27th to the 38th week. In other words, pregnancy in this series was interrupted prematurely once in every 15.7 cases.

In discussing deformed pelves the author pays particular attention to development of the child. Prochowinck's dietary is given in full detail, it being evidently considered that this treatment is not without value. He rightly points out that the proper management of labour in cases of deformed pelves is one of the most difficult problems in midwifery. His clear and masterly discussion of this theme makes this part of the work one of the most instructive and helpful in the book.

By way of mild criticism one may be permitted to question the wisdom of placing the removal of the placenta by Crêde's method in the section on obstetric surgery. One may also ask why should three pages be devoted to the highly unprofitable question of determination of sex, while only three-quarters of a page is devoted to the important subject of the formation of the placenta. One also notes the lack of explicit directions as to the use of axis traction forceps; while the author's directions as to the correct manner of holding the handle of the forceps blade during its introduction is open to criticism. Again, in dealing with the subject of the dilatation of the os uteri during the first stage of labour no reference is made to the importance of "polarity."

On the whole the work is of a very high order and will, no doubt, prove exceedingly popular, for it is practical and full of helpful suggestions to the practitioner. The author's style is good in general, but in places, as in the section dealing with the development of the ovum, it is involved, making the meaning difficult to comprehend.

The illustrations are largely from original sources and are not put in for padding, while the printing is clear and distinct. Prof. Edgar is to be congratulated in having accomplished a valuable and highly creditable work, one which will surely add to the credit of American obstetricians. *D. J. E.*

Johns Hopkins Hospital Reports, Vol. XI., Baltimore, 1903.

This, the last volume of the Johns Hopkins Hospital Reports is largely given over to a most elaborate study of pneumothorax, by Dr. Charles P. Emerson, which is, in fact, a complete treatise upon the subject, ex-

tending over 450 quarto pages. There are, in addition, two valuable papers which appear to be short in comparison, though one of them, that of Drs. Cooke and Briggs, is some 80 pages in length. This is a very important contribution on the results of clinical studies upon blood pressure. The third paper, by Dr. Martin B. Tinker, is a thoughtful resumé of the results obtained in Baltimore by the employment of tuberculin in surgical diagnosis.

We find it a little difficult to properly appraise the study upon pneumothorax. It is most conscientious; it represents clearly a prodigious amount of labour in the study of the literature of the subject from the old Greek physicians onward; with rare exceptions,* every paper of any importance bearing upon the subject has been under review and has been epitomized; each case of the condition which has presented itself in both the medical and surgical departments of the Johns Hopkins Hospital is the subject of careful description and study, while, further, the mechanics of the condition are treated at great length and have been the object of individual research by the author. The result is a most complete compendium of all that is known upon the subject and the results are well summed up in the last two chapters. But all the same, the impression left upon the reader is that the work, as a whole, to employ the expression of old Thomas Fuller, is a most "painful" product—using this term both in its Elizabethan and its modern acceptation. Reading it, we seem to pass back to the tomes of two centuries ago in which, with elaborate diffusiveness, every fact mentioned by every writer upon a subject was extracted in detail, careless of order and careless of repetition. This impression, we think, is given by the unfortunate arrangement of the subject matter. The literary digest occupies the first place and, in itself with its abstract of some 356 papers, consumes close upon 200 pages, mainly of small print. By the time that the honest reader has mastered this portion of the work—and, let us confess, it is most interesting—he has already gone over the subject in practically all its aspects again and again and is thoroughly satiated, so that his interest is dulled for the perusal of the individual studies of the author. As a piece of book-making, it would, we think, have been preferable had the details and analysis of the Johns Hopkins cases been given the first place together with the experimental observations of the author, and had he based his classification and description of physical signs, symptoms, characters, prognosis and treat-

* We note that that by A. G. Nicholls (British Med. Jl., Dec. 25, 1897), important as being the first demonstration of spontaneous pneumothorax due to gas-forming bacilli, and uncomplicated by surgical interference, has been overlooked, while those of Finley and Hamilton, on the same subject, published in this JOURNAL are duly abstracted.

ment upon the cases, with current reference to the work of earlier observers, delegating the abstract of the observations and studies of previous observers to an appendix. In saying this, we fully sympathize with the state of mind of Dr. Emerson and possibly, had we been in his place, and had we made so remarkable and exhaustive a study we might have been similarly led to give it the place of honour. Nor would we in the least imply that we do not appreciate the value of the article as a work of reference. For long years to come this must surely be the *locus classicus* on pneumothorax.

The clinical observations of the blood pressure by Cooke and Briggs form a most valuable contribution to our knowledge of a subject which is at last taking its rightful position in clinical work. The modified Riva-Rocci sphygmomanometer employed by the authors is, we have found from personal knowledge, a compact, easily portable and accurate instrument. We appear at last to have devised for us an instrument which is sound and practicable. Its only weakness is that it does not afford accurate reading of the mean diastolic pressure. But the systolic pressure can be determined to within two or three mm. of mercury. We have little doubt that this will become the favourite instrument for the purpose. The authors give a very full study of the blood pressure obtained in certain cases (effects of anæsthesia, of operation, shock and hæmorrhage), observations on the pressure during pregnancy, labour, and in eclampsia; observations upon the pressure in medical conditions (states inducing hypertension and hypotension and the course of the blood pressure in acute infections). Lastly, they give a valuable comparative study of the effects of general stimulant measures. The results obtained, while given in fuller detail, are in general confirmatory of the extensive series of observations by Dr. Orr communicated to the Canadian Medical Association in 1902. (This JOURNAL, Vol. 31.)

GENERAL ANATOMY OF THE LYMPHATICS by G. DELAMERE, with Special Study of the Lymphatics in different parts of the body by P. Poirier and B. Cuneo: Translated by Cecil H. Leaf; Archibald, Constable & Co., Westminster.

The first part of this most complete and well written book is done by G. Delamere. He studies in detail, 1. the lymph; 2. the leucocytes; 3. the lymphatic vessels; 4. the glands. Under these headings the author gives an exhaustive review of the experimental work done on the subject, with a history of the theories held, and most interesting details of the technique employed, quite enough to enable future experimenters to see what was actually done in each case.

He concludes by describing the general arrangement of the lymphatic vessels, their growth, functions, and atrophy in old age.

The second part is written by P. Poirier and B. Cuneo, who describe the lymphatics of the lower limb, pelvis and abdomen, thorax, upper limb, head and neck in succession ending with a study of the right lymphatic and thoracic duct with their variations and anomalies.

It is difficult to speak too highly of the thoroughness with which these regions are described and pictured in the many excellent illustrations that make the text so valuable. But without wishing to appear ungrateful in the face of so much that is good, we would call attention to the classification of the superficial inguinal glands, with a question as to its advantage over the one that has so long been accepted. They are divided into five groups by a horizontal line crossing a vertical at the saphenous opening, the divisions being named supero-external, supero-internal, infero-external, infero-internal, and central.

The authors almost apologize for disturbing the "classical division" into a superior or horizontal and an inferior or vertical group by saying that although it may suffice from a clinical, it does not do from an anatomical point of view. To quote the text, "the two superior groups are formed by a series of glands fairly regularly arranged below the crural arch and having their long axis parallel to it; the arrangement of the lower group is much more irregular, though the lowest are usually elongated in the vertical direction, the majority of them are round or oval and irregularly scattered about." It is not quite evident to us that this is sufficient reason to justify the breaking up of two fairly well marked groups into five whose divisions seem still more artificial.

In the description of the thoracic lymphatics, experiments are described which prove that the vessels of the two sides of the median line communicate freely and reference is made to the communication of the lymphatics from the inguinal glands with those of the axilla along the line of the epigastric arteries, a fact borne out clinically in several cases recently seen in hospital practice here, where an inguinal adenitis was soon accompanied by an involvement of the axillary glands on the same side.

The fact that the right lymphatic opens by a single trunk only once in twenty-five times may be news to some, and the extent and number of the variations in the termination of the thoracic duct would show how difficult an accurate description of its normal condition must be.

The classifications are clear, and the experiments that have been carried on to prove the facts are conclusive. The translation is also good. Altogether the book is a most valuable reference work for any one wishing full and accurate knowledge on this important subject.

The Transactions of the Society of Anæsthetists, Vol. vi, published by John Bale Sons & Danielson, London, have reached this far. The report contains a frank record of deaths from the administration of chloroform, and yet one looks in vain for any reference to the work of Dr. Waller upon chloroform anæsthesia, which was brought to the attention of the profession at the Montreal meeting of the British Medical Association at least seven years ago,—and many times since, notably in the *Lancet,* 28th November, 1903.

According to the returns of the Registrar-General, the death rate from the administration of chloroform has risen thirteen-fold since 1863, and taking the cases as they stand in the Transactions of the Society of Anæsthetists, one would be inclined to say, that, in some countries at least, three of them would be considered proper matter to lay before a coroner and jury. It would be no defence for an anæsthetist to say "he had to do as he was told," a statement which was made by one member in discussing the percentage of chloroform which might be given within the limit of safety.

Anæsthetics in every country are habitually administered by persons who are ignorant of the elementary principles of anæsthesia. It appears to us to be an elementary principle in the administration of any drug, that life may be destroyed by a large dose of a drug, which in small amounts is harmless. The most dangerous man in any profession is the "practical" man; the most dangerous anæsthetist is the one who refuses to recognize that there is such a thing as one, two, or five per cent. of chloroform, and judges of its power only by the indisputable fact that the patient is dead. All experience goes to show that anæsthesia, sufficient for any legitimate purpose can be promptly produced by a vapour containing not more than two per cent. of chloroform, and there are several inhalers, which ensure that no more be given. In the event of a fatal issue the administrator should be put to the question to prove that he had kept within that limit. The surgeon has enough to do without giving instructions to the anæsthetist. The Society of Anæsthetists has done much to take chloroform out of untrained hands, but it does not appear from their Transactions that they have yet attained to a full apprehension of the possibilities of their office.

The Neurological Practice of Medicine, a Course of Selected Lectures, by Charles H. Hughes, M.D., Barnes Medical College, St. Louis, 1903.

This course of lectures is written in the grand style by the president of the faculty, Professor of Neurology in Barnes Medical College They were delivered to the students, and the book is dedicated to them, the aim being to make "the dark and crooked path in neurology and neuriatry

bright and straight." The lectures are planned on a wide scale and make reference to everything that is known and much that is surmised about the nervous system. The writing is done in the breezy western way, but many jests that pass muster with medical students do not look so well in print, especially if the type is not very good. If the work were intended to become a classic, it would be well to scrutinize a little carefully some statements of fact and many historical references. Dr. Hughes, as a lecturer must be admirable, friendly and wholesome, but these qualities are not sufficient in themselves to ensure the production of a great work on the nervous system.

THE TREATMENT OF TABETIC ATAXIA BY MEANS OF SYSTEMATIC EXERCISE. By Dr. H. S. FRENKEL, Medical Superintendent of the Sanatorium "Freekof in Heiden." Translated and edited by L. Freyberger, M.D. (Vienna), M.R.C.P. Lond. M.R.C.S., Eng. Rebman, Limited, London, New York and Toronto.

It is now nearly fourteen years since the Frenkel treatment of ataxia by movements of increasing complexity was introduced into America and the results have been in every case an improvement, more or less marked, in co-ordination, the extent depending largely on the thoroughness and persistence of the patient and the attending physician.

The carrying out of the course requires much personal attention and constant supervision, and so is more easily accomplished in a sanatorium where the patient's daily life can be regulated. It can be successfully applied at the patient's own home under favourable conditions, and this book gives a full description of the exercises and mechanical devices employed by Dr. Frenkel in the treatment of his cases. He begins his work by an opening chapter on tabes in general and ends by a bibliography of the whole subject. Every physician who has occasion to treat such cases should be possessed of this book.

INTERNATIONAL CLINICS. Vol. III. Edited by A. O. J. KELLY, M.D., 301 pages. J. B. Lippincott Co., 1903. Charles Roberts, Montreal.

This volume deals with diseases of the gall bladder and gall ducts; the treatment of pneumonia, the medical treatment of gastric cancer, carbonic acid treatment in rectal disease, the serum treatment of typhoid fever; malarial infections, clinical types of pneumonia, sudden death due to respiratory disorder, an unusual form of leukæmia, clinical evidence of myocardial damage in rheumatic fever; cocaine anæsthesia, general anæsthesia, asepsis and antisepsis, gastrostomy, intracostal tumours, the modern treatment of varicose veins. There are five coloured plates, five plates in black and white, and twelve figures. The contributors are of

the highest class, and their contributions are well worthy of a place in this admirable Quarterly, which contains the best that has been done and said in medicine, during the period with which it deals.

THE STANDARD DICTIONARY: Funk and Wagnalls Company, New York and London, 1903.

The first edition of the Standard Dictionary was issued in 1893, and the second edition has appeared ten years after, enlarged and re-edited enriched with fresh information and embellished with new plates. It contains over 2,300 pages and 304,000 terms and is excellently bound in one and two volumes. The production of this dictionary, with its splendid press work and admirable binding, was a great undertaking, which has met with the success it deserved. The present reviewer has used the Standard Dictionary every working day for ten years, and has never found it at fault in any particular. The definition of words is close, and the secondary meaning is given literally with gracefulness and style; the quotations are fresh and highly illustrative, and variations from the common spelling of words are faithfully recorded. The work is edited with great sagacity, with great critical and literary ability and is entirely satisfactory for any purpose to which a dictionary may legitimately be put.

PHILADELPHIA HOSPITAL REPORTS, Vol. V. DR. EDWARD MARTIN, Director.

This volume is issued by the Department of Public Health and Charities having charge of all institutions the control of which is intrusted to the city. The work is deserving of study by all who have to do with the management of hospitals and the care of patients.

THE PRACTICAL CARE OF THE BABY. By THERON WENDELL KILMER, M.D., New York School of Clinical Medicine, 158 pages, 68 illustrations., $1.00, F. A. Davis Co., Philadelphia.

The illustrations are very dainty and interesting; the advice is sound, and a baby brought up after Dr. Kilmer's method would certainly be a model child. A very interesting feature of the book is the side lights it affords upon the domestic economy of an American household.

Medical News.

The Provincial Board of Statistics gives Toronto's population as 212,221; the number of deaths during the year were 3,730; births, 5,040, and marriages, 2,631. The death-rate is 17.46 per 1,000, as compared with 19.00 in 1901 and 19.95 in 1891.

THE ROYAL VICTORIA HOSPITAL.

STATEMENT OF PATIENTS TREATED DURING 12 MONTHS ENDING 31ST DEC. 1903

ADMITTANCES.

	1903.	1902.	DECREASE.	INCREASE.
Protestants	1,774	1,704		70
Catholics	1,034	979		55
Jews	101	105	4	
Others	22	26	4	
Total	2,931	2,814		117
Free	1,583	1,524		59
Public Pay	850	827		23
Private Pay	498	463		35
	2,931	2,814		117
Medical	1,004	986		18
Surgical	1,185	1,084		101
Disease of Women	320	310		10
Eye and Ear	282	273		9
Nose and Throat	140	161	21	
	2,931	2,814		117
City	2,126	2,070		56
Country	805	744		61
	2,931	2,814		117
No. of Patients—Days	74,111	70,609		3,502
Daily Average	203	193½		9½
Private Patients—Days	10,169	8,097		2,072

DISCHARGES.

Discharged	2,769	2,702		67
Died	142	125		17
Died within 48 hours of Admission	38	26		12
Death Rate	4.88	4.62		.26

OUT-PATIENT DEPARTMENT.

Medical	9,890	9,381		509
Surgical	4,578	4,547		31
Diseases of Women	1,542	1,292		250
Eye and Ear	4,122	3,393		729
Nose and Throat	3,506	3,337		169
	23,638	21,950		1,688
Ambulance Calls	742	591		151

The income for the year was $140,368, while the ordinary expenditure amounted to $120,419; the balance of $19,949 being applied in

reduction of the indebtedness incurred by additions and the new operating extension. There was an increase of $7,225 in the expenditure for 1903 over 1902. The total cost a day per patient has been $1,62½; the cost per day of maintaing each person in the hospital, staff, servants and patients, being 89 cents.

NOTRE DAME HOSPITAL.

The twenty-third annual report of the Notre Dame Hospital has just been issued for the year ending 30 June, 1903.

In the private and public wards were treated over 300 patients more than last year, 2,433, as compared with 2,132 in 1901-02.; in medicine, 854 instead of 811; in surgery, 1,044 instead of 859; in ophthalmology, 200 instead of 179; in gynæcology, 335 instead of 283. The number of days residence of the 2,433 patients formed a total of 39,057 days, an increase of 4,301 days treatment over last year; however, the average sojourn of each patient remains about the same, namely, sixteen days instead of fifteen. Among these patients were registered 1,446 men and 987 women; of these 2,076 were Canadians and 357 foreigners, 2,284 were Catholics and 149 Protestants. The average cost for each patient was less per diem than last year, .87⅗ instead of .91. Of these 2,433 indoor patients admitted during the year, 2,088 left the Hospital cured or improved; in 143 cases there was no improvement, or the treatment could not be followed out; 56, when admitted, were moribund; 116 died in the wards of the Hospital after a more or less prolonged sojourn, giving a death rate of 7.06 per cent. The number of patients not improved or not treated was less, 143 as compared with 185, and the number of patients cured or improved, is greater, 2,088 instead of 1,812.

In the Dispensaries there were 2,530 consultations, being a total of of 21,245 as compared with 18,715 last year; 25,416 prescriptions instead of 20,500 were filled. The emergency cases were more numerous; the house surgeons, who, last year treated 899 patients, have had this year 1,041 cases; there were 530 ambulance calls for accidents instead of 323, and if there be added to these 339 trips for private cases and 179 useless calls, there is a total of 1,048 trips as compared with 809 last year. To meet all these demands the ambulance service had to be increased; it now comprises three ambulances and six horses.

The total expenditure has been $34,238.90, an increase over last year of $3,438.80.

During the month of December, 192 indoor patients were admitted, and 1,346 were treated in the several outdoor departments. There were 123 ambulance calls.

WESTERN GENERAL HOSPITAL.

The annual meeting of the Western Hospital was held on the 19th January. During the year 1903, 600 patients were admitted to the Hospital an increase of 11 over the year 1902. Of these 304 were Protestants, 260 Roman Catholics, 33 Jews, 3 of other religions; 261 males, 339 females; 315 were free patients, 80 public ward patients paying 50 cts a day or less, 112 semi private patients at $1.00 per day, 93 private patients; 547 were residents of Montreal and 53 from outside localities; there were 175 medical, 310 surgical, 115 gynæcological. There were 30 patients in the Hospital on 1st January, 1903. During the year, 563 patients were discharged, 31 died, and 34 remained in Hospital on 31st December. The death rate for the year was 5.16% or deducting deaths within 48 hours, 3%. The total number of patient days was 11,176, giving an average of 18.6 per patient. The largest number in the Hospital on any day was 39 on 25th January and the lowest 22 on 21st December. The average daily number was 30.6. The highest monthly average was 33 in January and April, and the lowest 27 in December. The number of ambulance calls for year was 138.

The total number of consultations in the out door department 7,560 as compared with 6,570 for year ending 31st December 1902, being an increase of 990, of which 2,569 were medical, 1,170 surgical, 1,312 gynæcological, 648 eye and ear, 1,107 nose and throat, 251 skin, 503 genito urinary.

There had been 96 applications for admission to the training school during the year, and seventeen probationers had been admitted. and thirteen accepted as pupil nurses. The income derived from all sources came within $250 of the expenditure. The board of management and the medical staff were re-elected.

HOTEL DIEU.

Report for year ending December 31st, 1903: Male patients admitted, 1,326; 688 cured; 504 relieved; 17 incurable; died 117. The treatment of these patients demanded 34,882 hospital days. Of those, 1,286 were Roman Catholics and 40 belonged to other religious denominations. Female patients, 1,234; cured, 626; relieved, 493; incurable, 20; died, 95. Total number of hospital days given to these patients, 34,007. Roman Catholics 1,213; other religious denominations 21. Major operations were performed on 480 men and 640 women, forming a total of 1,020. The acute diseases numbered 486 cases, chronic 640.

During December, there were admitted 371 patients; male patients, 198: female 173, with 10 deaths. Two hundred and thirteen consulta-

tions were given in the eye, ear, and nose outdoor department, and 35 operations were performed.

Diphtheria continues to spread in Ontario. In August, twenty-seven municipalities reported 122 cases with 24 deaths; in September, twenty-eight municipalities reported 240 cases with 30 deaths; in October, fifty-two municipalities had 464 rases with 54 deaths, and the returns for November and December, show that the prevalence of the disease is unabated. An increasing number of patients is taking advantage of the isolation hospitals, and Dr. Bryce, secretary of the Board of Health believes that will be an important factor in checking the progress of the disease.

The Superintendent of the Brockville Hospital for the Insane, Dr. Murphy, died of heart disease on the 17th January. He graduated from Queen's College, Kingston, in 1876, and immediately entered upon practice at Belleville. He was medical superintendent of the Memico Asylum from 1890 to 1894, and received a similar appointment on the opening of the Brockville Asylum in 1894. He married Miss Boulster, of Toronto, and left a family of six children. Dr. Murphy was 54 years of age.

Dr. Ellice McDonald, McGill, '01, has secured an appointment as Resident Interne in the New York Lying-in-Hospital. He had previously spent some months in the Kensington Hospital for Women, Philadelphia.

Dr. John McCrae, Dr. F. Morley Fry and Dr. H. B. Cushing have been appointed Associates in Medicine, in the Royal Victoria Hospital; Dr. Edward Archibald and Dr. C. B. Keenan were appointed assistant surgeons, and Dr. W. H. Jamieson assistant laryngologist.

The thirty-seventh annual meeting of the Canadian Medical Association will be held at Vancouver, B.C., on the 23rd, 24th, 25th and 26th August, 1904, under the presidency of Dr. Simon J. Tunstall of that city. Mr. Mayo Robson will be a guest of the Association.

Dr. W. W. Ford, formerly fellow in Pathology at McGill, has been appointed first assistant in bacteriology at Johns Hopkins.

Dr. Hamilton Wright, formerly director of the Institute for Medical Research in the Malay States has taken service with Johns Hopkins Hospital.

Dr. Robert Fowler Beattie, McGill, '98, who has been studying for the past two years in Vienna, is at present engaged at the Liverpool School of Tropical Medicine.

Dr. P. H. Bryce, secretary of the Ontario Board of Health, will probably be appointed Canadian Medical Inspector to the Departments of Immigration and Interior.

Dr. Fred. H. Ames, of Toronto, died in Denver where he had practised medicine for the past ten years.

Dr. Thos. Norton, a graduate of McGill, died on the 15th of January at Shelbourne, Ont., in the 52nd year of his age.

Dr. Duncan Fraser, of Lakefield, Ont., died in the 21st of January in the 57th year of his age. He was a graduate of Trinity Medical College in 1874.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

THEO. KOCHER. "Nothnagel's Specielle Pathologie und Therapie, IX., 3.2?. Brain Compression and Concussion; Surgical Treatment of Cerebral Diseases. 1901.

HARVEY CUSHING. 1. "Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie. Bd. IX.—Heft 4 und 5. 1902.
2. Amer. Jour. of Med. Sci., Sept., 1902.
3. Amer. Jour. of Med. Sci., June, 1903.

The monograph of Kocher is the work of a past master of the science of surgery. All the related facts of anatomy, physiology, animal experiment, and clinical experience are brought together in a panoramic way to build up a complete picture of the phenomena of brain compression. It would take too long to give any detailed resumé of this work of 450 pages, and, apart from that I prefer at this time to review more particularly the work of Harvey Cushing upon brain compression, done at Kocher's suggestion; the more so inasmuch as, in itself, it contains the kernel of the whole question. The field, it is true, had been already well ploughed, yet there remained several important furrows to be turned by Cushing.

After exhaustive preliminary chapters upon the anatomy, hydrostatics, hydrodynamics, and physiology of the cerebral circulation, Kocher proceeds to review critically the experimental work, detailing first the re-

sults of Leyden and of Naunyn, and then passing to that of Harvey Cushing. He introduces his remarks with a reference to Cushing's work so complimentary to our neighbour across the line that it deserves repeating: "The Arbeit on brain compression which, thanks to the unusual ability and untiring zeal of the author, has led to especially valuable results, is that of Cushing, of Baltimore, undertaken in the winter of 1900-01 at my instigation, and carried out in the laboratory of Professor Kronecker in Berne. I am glad to have had the opportunity of suggesting this Arbeit and of having been able to be present at many of the experiments, inasmuch as I believe the results to be decisive in settling certain essential points in the question of brain compression."

I would like to describe with a little detail this work of Cushing's on account both of the inherent beauty of the experiments and of the importance of the results. To begin with his methods of investigation:

1. *Modes of exerting compression.* First of all he makes a sharp distinction between local and general pressure. Local pressure was obtained by the introduction of a foreign body, usually a rubber sac filled with mercury, introduced through a trephine opening. General compression was obtained by the introduction of salt solution under pressure into the cerebro-spinal space. The latter gives a much more exact and constant pressure upon the whole brain and especially upon the vital centres of the medulla.

2. *Injections.* Cushing made a number of experiments in the way of injecting brains during compression with solidifying fluid, driving it under pressure, usually in the agonal stage of the animal, into the brain by way either of the vessels or of the cerebro-spinal space. He found, in brief, that the injection fluid did not fill capillaries in the area of compression when he used local compression, nor anywhere in the brain under conditions of general compression. If the injection were made through the artery before the compressing force was exerted, the veins were found filled with injection material, the capillaries empty; if it were made during compression the veins were found filled with blood and the capillaries empty. In the case of local pressure its effects were found to be transmitted very irregularly: if general compression was exerted the effects were evenly distributed over the whole brain.

3. *The Skull Window.* In the third place—and this is a very important part of the experiments—he observed the brain directly by means of a glass window screwed into the trephine opening. Underneath this window, which was frequently placed in the middle line over the longitudinal sinus, a portion of the dura was removed sufficent to show one convolution, one sulcus and the vessels lying upon it. The typical experiment was carried out somewhat as follows:—Blood pressure

being measured in the femoral by means of the mercury manometer, the salt solution was injected usually through a trephine opening in the atlas, likewise under a known pressure in mm. of mercury, into the cerebro-spinal space; and simultaneously the local effects in the cortex were directly observed through the window.

It must be remembered that the major symptoms of brain compression are medullary and are due to effects upon the vagus, the respiratory and the vaso-motor centres. The results which Cushing obtained may be best described in his own language taken from his article in the *Mittheilungen.*

Local Compression. When local compression is exerted upon one hemisphere, the window being in position upon a corresponding area of the other hemisphere, the following changes in the circulation may be observed during the gradual increase in the compressing force:—One of the first phenomena consists in a color difference between arteries and veins. There accompanies this a slight but distinct widening of the veins, which extends even to the smaller radicles. When the local pressure is increased to above 80-100 Hg.mm., the capillaries grow pale and the brain loses its reddish ground-tone. But the large veins, lying in the sulci, remain filled with blood and become quite dark. The smaller venous radicles, especially where they cross the convolution, may at this time be in parts collapsed, in parts full.

If compression is now increased, so as to exceed blood pressure, the arteries themselves collapse, the veins meanwhile remaining filled with asphyxial blood. Occasionally this anæmic condition may last a long while, although usually the arteries soon fill up again, for a reason to be given. If compression has been exerted so as not to irritate the sensitive dura, this stage of anæmia may be reached with very little change in pulse, respiration or blood pressure. The foreign body (Hg.) may sometimes attain 1/6th of the whole brain volume without causing such medullary phenomena (this explains some cases of tumour). That this is possible can be due only to one or both of two factors,—either the compression is transmitted unequally, or the medulla has escaped pressure by a dislocation downwards through the foramen magnum. No doubt both play a rôle. Horsley and Spencer have shown that a small foreign body and a less degree of pressure over the cerebellum, and still more so over the medulla, can cause symptoms which remain absent when the hemispheres are compressed. This observation confirms the results of Cushing's findings.

The falx and tentorium certainly play a great part in transmitting pressure unequally. The falx is often found dislocated to the opposite side after pressure, showing that transmission occurs mainly transverse-

ly, and less in the vertical direction. The dislocation of the cerebellum and medulla downwards must be especially easy in animals which possess a more or less conical cerebellar fossa. In the apes and man the same condition is probably not so pronounced, although its occurrence is certainly sometimes observed. A pretty demonstration of this dislocation downwards was afforded by an experiment of Cushing's. After exerting great compression upon the hemispheres and failing to produce symptoms of pressure on the medullary centres, he opened the lumbar meninges and injected his salt solution from below. Immediately the fourth ventricle symptoms were called forth.

It is thus evident that the effect of local compression on the circulation may vary greatly in different portions of the brain, and that the symptom-complex may be either very slight or very severe according to the degree to which the higher medullary centres are affected. The greater part of the brain may be made entirely anæmic, without the so-called major symptoms occurring. This is also seen clinically.

During General Compression. For the purposes of drawing deductions from experiments this method is of far greater value than the local. As Cushing remarks, the great differences of opinion which have obtained among physiologists are probably due to the fact that the importance of an especially accurate measurement of the compression upon the medulla itself and of a comparison of this with that of the blood, has not been realized. It is only by such comparison that we can get a proper idea of the circulatory conditions in that most important part of the brain.

Now it has been shown that local compression gives results too vary-intracranial tension is an evenly distributed one; and this can be attension in the brain is an evenly distributed one; and this can be accomplished in no other way than by exerting the pressure through the cerebro-spinal space. Only thus can we obtain with any regularity the major and essential signs of brain compression and discover the efforts of nature to withstand its effects.

What are now the circulatory changes observed? As in the case of local compression the first change is that of a slight dilatation of the veins, the coming into view of the smaller radicles, previously invisible, and the development of a distinct dfference in color between veins and arteries. At the same time the longitudinal sinus (window in mid line) shows signs of narrowing, beginning usually at the posterior end. These changes are observed long before pressure is great enough to give signs of disturbance of the medullary circulation. Occasionally slight irritative phenomena on the part of the respiration and pulse rate occur during this early stage, but there is no effect on blood pressure, and if the

compression is exerted slowly and carefully even these may be avoided.

When the pressure has been brought up to near the blood pressure, we find the longitudinal sinus collapsed, the brain clearly in a condition of stagnation, and the veins filled and of a deep blue color. According to the views of some, such a degree of circulatory stagnation should be sufficient to cause marked symptoms; yet, as the curves show, there need be no change in pulse, respiration, or blood pressure. According to the usual opinion, if the compression is increased above this point, and above blood pressure, a complete anæmia of the medulla results, calling out the major symptoms of compression and causing death. This is erroneous. What occurs is this. As soon as the blood pressure is exceeded by the compression-pressure and indeed exactly at that moment, the observer sees through the window that the brain grows pale; that is, the capillaries are emptied, and even the visible arterioles also, while the veins remain full of stagnant blood. This anæmia, however, lasts but a short time (unlike the condition in local compression). Why? Because now the blood pressure rises, and rises so as to reach a level above that of the compressing force. Thus the blood is driven through again, the arteries become visible and the reddish color returns to the brain.

Now if we again increase the compression the same results are obtained. In this way Cushing was able to drive blood pressure up to comparatively enormous heights. In one case he pushed intracranial pressure up to 276 mm. Hg. and the blood pressure to 290, before this regulating mechanism failed. Moreover it was found that a high compression pressure, if kept below blood pressure, could be borne by the brain for a long time—an hour or more. And clinically it is certain that a similar condition of moderate interference with medullary circulation can be borne for days (as in hemiplegia).

Now we have here evidence of a sort of regulating or protective mechanism designed to overcome the effects of cerebral anæmia. To what factors is this due?

The physiological proof afforded by Cushing is very pretty. If he cut both vagi the blood pressure response appeared more regularly than before inasmuch as the cardio-inhibitory action was excluded. If he cut the cord above the level of departure of the sympathetic nerves to the splanchnic area, thus excluding vaso motor control of that great region, he obtained only a vagus effect, a slow pulse but no rise in blood pressure. When he cut both the vagi and the cord and induced compression, there occurred neither slowing of pulse nor rise in blood pressure. Again—and this was very ingenious,—if he cocainized the medullary centres in the 4th ventricle, thus paralyzing them, and, of course, carrying out arti-

ficial respiration, he obtained the same results as when he cut both the vagi and the cord. When the cocaine effect wore off there returned gradually the response of the vaso motor centre with its rise in blood pressure upon compression. Lastly, exposing a loop of intestine, he saw that during brain compression the mesenteric vessels contracted, and that they dilated when compression was removed, evidencing the enormous importance of the great splanchnic area.

From these experiments Cushing felt justified in formulating a law,— "An increase of intracranial pressure above blood pressure causes a rise of the latter to a point somewhat above intracranial pressure. Moreover this regulatory mechanism is due to an action of the vaso motor centre and is brought about only by the condition of anæmia."

"An acquintance with this regulatory mechanism" continues Cushing, "would appear to throw light upon many points concerning the effect of compression which have hitherto been discussed indecisively. We see that venous stagnation has no relation to compression symptoms; that these symptoms may remain quite absent until we get an anæmia of the medulla; that the vaso motor centre in the medulla possesses the power of working successfully against this anæmia for an undetermined time and of postponing the stage of paralysis; that in local compression an anæmia may exist in the neighbourhood for a long time without prejudice to life so long as the medulla is not involved."

It is here not the place to discuss questions of priority. The influence of brain anæmia upon blood pressure has long been known; and whether Schultèn completely demonstrated the intimate relation between brain compression and blood pressure, or whether Leonard Hill, who speaks of the "protective mechanism" of the vaso motor centre (what Cushing calls the "regulationsmechanismus"), proved and formulated a proposition containing the essentials of Cushing's law must remain undecided in so far as the present article is concerned. In any case it is indisputable that Cushing by his injection experiments and by the use of the window with accurate simultaneous measurements of the blood pressure and of intracranial pressure, has settled once and for all the "Wirkungsweise" of brain compression.

So much for the central point of the question. In addition his experiments confirmed or disproved many other details; such as the extremely free connection between the cerebro-spinal fluid and the sinuses and veins, and its practical lack of communication with the lymphatics; such as the descent of the medulla and the cerebellum into the spinal canal upon compression, and the consequent partial escape of the medullary centres from the compressing force; such as, again, the proper meaning

of Traube-Hering waves, with many other minor points too numerous to mention.

Reviewing this work of Cushing's, together with that of many others Kocher summarizes the "Theory of Brain Compression" somewhat as follows:—

"As soon as the available room in the skull is taken up by compression there occurs a driving-out of the fluid contents. The brain itself, incompressible, has to give way towards the foramen magnum. The liquor goes off by the veins and sinuses and into the diploe, and eventually along the nerve sheaths. At the same time the venous blood is expressed from the sinuses and large veins, into the jugular, or the veins of diploe. This is the stage of compensation.

When no more room is available there begins the early stage of manifest compression through progressive narrowing of veins towards the arteries. This causes stagnation in the side exits and we get insufficient circulation through the capillaries resulting in headache, dizziness, pains in the limbs, restlessness, singing in the ears, disturbed consciousness, delirium, dreams, etc.

With increased pressure we get capillary anæmia, and this stage represents the acme of manifest compression. An anæmia from local pressure may be a lasting one and in such cases may cause local signs according to situation,—paralysis, hemianopsia, etc. This can last a long time without danger to life; but if the anæmia extend to the bulb, death is inevitable through paralysis of the vaso motor centre. That this result is or may be long postponed is due to the excitation of the vaso motor centre according to Cushing's law. This excitation, however, lasts only so long as the anæmia is present; blood being driven through, the blood pressure falls again, and the anæmia becomes an intermittent one. The respiratory centre is affected in the opposite way—anæmia tends to paralyze it, while good blood stimulates it. The vagus centre is affected earlier, even by comparatively small obstruction to circulation: the venous blood of difficult circulation seems to arouse the cardio-inhibitory action and this persists without change until the paralytic stage. Ultimately the medulla is given blood only during systole, not diastole, and this not only intermittent but insufficient blood supply leads to the fourth stage, that of paralysis. The paralytic symptoms affect the whole brain. Introduced by tremors, nystagmus, variations in the pupil; irregularity of pulse and respiration, it progresses to complete unconsciousness, with loss of all cortical function: fixed dilated pupils; stertorous intermittent breathing; rapid and small pulse; sinking blood pressure and finally death.

Correlating these theoretical views with clinical phenomena, Kocher

proceeds to lay down his now well-known clinical classification, dividing a typically progressive case of brain compression into four stages:—

1. *Stage of compensation,* in which slight circulatory embarrassment is overcome by escape of the liquor and by narrowing of venous channels, symptoms being insignificant.

2. *The beginning stage of manifest compression,* with venous stasis, characterized by headache, vertigo, restlessness, roaring in ears, disturbed sensorium with excitement; above all with development of distension and tortuosity of the veins of the optic papilla, a recognizable and very valuable clinical sign.

3. *The acme-stage of manifest compression,* characterized by alternations between anæmia and a good circulation. Here we have the step-ladder rise in blood pressure with the development of rhythmic blood-pressure waves, marked respiratory distress, rhythmic alterations in the size of the pupil, and usually a vagus pulse.

4. Stage of *paralysis* with alternations between complete anæmia and an insufficient circulation, characterized by a falling blood pressure, irregular cardiac and respiratory efforts, deep coma, wide fixed pupils and broken snoring respiration—an irrecoverable condition of cerebral anæmia.

The clinical application of these experimental principles, as can be seen, turns upon the use of a simple and convenient apparatus for recording blood pressure in man; and such, Cushing found in the Riva-Rocci instrument, modified by Cook. In a very important clinical article in the *American Journal of Medical Sciences,* June, 1903, Cushing gives us the clinical applications of the foregoing experimental work. He reports five cases representing the four stages of Kocher's classification. It would take us too long to abstract the details of these cases; suffice it to say that with the help of this modified Riva-Rocci blood pressure apparatus he has been able to follow in a comparatively accurate way the conditions of blood pressure proven to exist in experiments. Too much praise cannot be given to the extremely accurate observation of blood-pressure in the cases reported,—observations which led *logically* in each case to the formulating of clear indications for or against operation. It represents the prettiest example of the logical and successful application of physiological experiment to clinical work that we have observed for a long time. We must refer the interested reader to the article itself. Yet we would like to call attention to one case in particular, Case iv., which represents a new departure in brain surgery; one which depends directly upon the experimental work described. It was that of an apoplexy with right hemiplegia in which blood pressure registered 300 mm. of mercury with

all the major bulbar symptoms present and threatening paralysis of the vital centres. These were relieved by craniotomy and the aspiration of an intracerebral clot. Although death resulted on the third day from pneumonia, the relief to the dangerous brain symptoms was unmistakable. Cushing expresses the opinion that such cases of intracerebral hæmorrhage may, at least in some instances, be regarded in the same light as those of extra-cerebral hæmorrhage and justify in the same sense surgical interference. The propriety of such a radical procedure must remain undecided until we have further clinical data to go upon. Possibly the dangerous compression symptoms might have been sufficiently relieved by trephining alone, or by the raising of a large osteoplastic flap.

Space forbids our referring in detail to Kocher's work on Concussion, which he prefers to call acute compression. Its consideration in his monograph occupies as much space as that of compression. The book concludes with a valuable section upon trephining and its indications, craino-cerebral topography, extensive craniotomies, exploratory craniotomy, and brain operations in general.

It is a work which can hardly be too much praised and if possible enhances the brilliant and world-wide reputation of its author.

E. W. A.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND W. F. HAMILTON.

FORTESCUE-BRICKDALE. "Collargol; a Review of Some of its Clinical Applications with Experiments on its Antiseptic Action."

Since Credé introduced silver as an antiseptic in 1897, many salts of this metal have been used for both external and internal conditions. Collargol, an allotropié modification of silver—has been used internally in both human and veterinary medicine—administered as an ointment containing 15% of the drug and intravenously, 5 or 10 c.c. of 1 per cent. solution being injected once a day.

When absorbed it induces a leucocytosis—within the first six hours lasting for twenty-four or forty-eight hours. It is excreted by the intestines and by the kidneys—no poisonous symptoms ever occur.

From experimental and clinical evidence concerning its usefulness the following conclusions are drawn up:—

1. That collargol has never been introduced into the body in sufficiently large quantities to produce an antiseptic solution in the mass of the blood.

2. That the evidence is strongly against its having any effect on artificial septicæmia in rabbits.

3. That as far as the above case show it has not had any effect on proved cases of general pyæmia or septicæmia in man.

4. That a fall of temperature and improvement in the general condition comparable to that sometimes produced by antipyretics and hydrotherapy has been observed in some cases of general toxæmia but that in half the recorded cases admissible as evidence it proved inert.

Riesman. "Desquamation of the Skin in Typhoid Fever." *The Amer. Journal of the Med. Sciences.* January, 1904.

Dr. Riesman's interesting resumé of observations on this subject and the recital of two illustrative case reports well deserve a place in the retrospect of medicine.

The following varieties of desquamation in typhoid may be distinguished:—

1. That confined to the rosecolor spots. In some instances each spot has a tiny vesicle upon its summit which quickly passes into a thin scale-like crust.

2. That appearing as a sequel of sudamina. This is confined to the areas that have been the seat of the sudaminal eruption. * * * * The desquamation is usually furfuraceous but it is sometimes scaly. It occurs upon the trunk and the proximal parts of the limbs and is never seen upon the distal parts of the extremities or upon the face. It appears in the bathed and in the unbathed.

3. In some instances, * * * * there is in typhoid fever, an extensive almost universal desquamation either furfuraceous or lamellar which seems to be independent of sudamina and in all probability is a trophic change analogous to the shedding of the hair. It affects the trunk and the roots of the limbs, and, in rare instances also the face and the distal parts of the extremities. Usually but not always the extent and the intensity of the desquamation bears a relation to the severity of the fever.

Rucker. "The Differential Diagnosis of Typhoid Fever in its Earliest Stages." *The Amer. Journal of Med. Sciences.* January, '04.

After a review of the various methods of differential diagnosis chiefly from the bacteriologic standpoint, Rucker draws up the following conclusions:—

1. There is no single symptom on which alone an early diagnosis of typphoid fever can be made. It is only by careful consideration of the symptom complex that a clinical diagnosis can be arrived at.

2. The most trustworthy as well as the earliest sign of typhoid fever is the presence in the circulating blood of the bacillus of Eberth.

3. The demonstration of the bacillus of Eberth in the blood is not beyond any fairly well equipped laboratory.

4. The bacillus of Eberth is found in the fæces later than in the blood but with comparative ease. The presence of the bacillus typhosus in the fæces is of great value as a corroborative sign.

5. The presence of the bacillus typhosus in the rose spots is a trustworthy sign, but has no advantages over the examination of the blood from other localities.

6. The serum reaction of Widal is seldom demonstrable during the earliest stages of typhoid fever. It is of value only in the higher dilutions.

Max Einhorn, M.D. "The Serum Treatment of Typhoid Fever." *Medical Record*, Jan. 16th, 1904.

An historical summary of the efforts to obtain a serum for the treatment of typhoid fever opens the article, and then Dr. Einhorn gives his own experience in the employment of the serum prepared by the Berne Board of Health, after the method of Jez. Ten cases were treated and full notes with charts are given. Dr. Einhorn arrives at the following conclusion:

"The serum treatment of typhoid fever temporarily reduces the fever and improves the general condition, so that patients go through a more rapid and safer convalescence; the injections do not seem to be connected with any dangers; with the many injections given we never had any serious trouble. I therefore believe that the serum treatment of typhoid fever is now already of decided value, and there is no doubt that we shall soon have more potent sera, with which we may obtain more favourable results."

Dupuy. "The Laryngeal Complications of Typhoid Fever." *The N. Y. M. and Phila. M. Journal.* December 26, '03.

Notwithstanding the careful and painstaking study bestowed upon typhoid fever, Dr. Dupuy finds an hiatus, so to speak, in the list and descriptions of the complications of this disease especially with reference to the larynx. The article under review is an attempt to fill up the omission by bringing together the references to laryngeal complications—discussing the etiology, frequency and pathology and reporting a case. The general conclusions with which the article closes are as follows:—

The 25 collated cases reported in the last 58 years, which for evident

reasons are only approximately correct, afford eloquent proof that the subject of typhoid affections in the larynx calls for general recognition. Evidence bacteriological and clinical strongly support the view adopted by the majority of observers, that the laryngeal involvement in most instances is a direct typhoid infection.

A high death rate, as shown by statistics, when this complication exists, teaches the salutary lesson of always examining the larynx when the danger signals of hoarseness, dyspnœa or dysphagia set in.

The favourable results which follow operative interference offer such a contrast to the high mortality without operation that there can be but unanimity of opinion as to its propriety.

Trachæotomy is the most approved method.

Lesions in Larynx.

Laryngeal perichondritis	Cases	5
" Ulceration	"	5
" Necrosis	"	3
" Abductor paralysis	"	2
" Oedema	"	3
" Diphtheria presumably	"	3
Ludwig's angina	"	2
Abscess in larynx	"	2
		25

Francis Hare, M.D. "Mechanism of the Paroxysmal Neuroses." *Australasian Medical Gazette*, July, August, September, October, 1903.

The disorders, known as paroxysmal neuroses, namely, migraine, asthma, epilepsy, gastralgia, and functional angina pectoris, are concred very fully and their interchangibility referred to. The mechanism of the production of each is described. The papers are full of clinical references and many illustrations are drawn from the literature. They may be obtained under one cover from W. E. Bridge, Sydney.

Stephen J. Maher, M.D. "Investigations of a Bacterial Treatment of Tuberculosis." *New York and Philadelphia Medical Journal*, Jan. 16th, 1904.

Dr. Maher continues his recital of cases treated by what he calls the X-bacillus. He has already treated sixty-three cases, and the final results will be read with interest.

F. L. Wachenheim, M.D. "The Hæmorrhagic Diseases and their Allies in the Light of Modern Pathology." *Medical News*, Jan. 16th, 1904.

The author begins his study with a consideration of the nature and causation of spontaneous hæmorrhage, and deals with chemical poisons and toxins as causative agents.

Summing up, the author finds that hæmophilia, congenital or acquired, is a toxinæmia with secondary auto-immunization to a quasi-normal function; that the scorbutic affections are chemical auto-intoxications, hæmorrhagic only because the blood is especially involved; and that the purpura rheumatica group is only a manifestation of ordinary rheumatism or sepsis. After an exposition of their very diverse nature, it seems clear to the author that the old class of the hæmorrhagic diseases has become obsolete, should be relegated to the domain of historic medicine, and cease to appear in monographs and text-books.

The American Journal of the Medical Sciences, December, 1903.

It is worth reproducing the contents of the December number:—

The Anatomical Basis of the Argyll-Robertson Pupil, by Henry M. Thomas; A Contribution to the Surgery of Cerebral Tumours, by George Woolsey; Multiple Sclerosis with Dementia, by J. Ramsay Hunt; Tumours of the Sigmoid Flexure, by Prof. C. A. Ewald; Concerning the Nature of Certain Cases of Chronic Polyarthritis, by David L. Edsall, and Ralph S. Lavenson; Clinical Lecture on the Symptomatology and Treatment of Trifacial Neuralgia, by Charles H. Frazier; A Death during General Anæsthesia with Ethyl Chloride, by Francis Olcott Allen, Jr.; A Case of Infection of the Epididymis and Tunica Vaginalis by the Friedländer Bacillus, by Eugene P. Bernstein; A Case of the Epiphenomena of Diphtheria Antitoxin, by James P. Marsh; A Case of Probable Primary Carcinoma of the Lung; by Arthur Bremken; The Movements of Superior Intercostal Muscles in Hemiplegics, by L. Pierce Clark; A Note on the Foot of the American Negro, by Albert H. Freiberg, and J. Henry Schroeder; Studies on the Antagonistic Action of Drugs, by H. D. Haskins; Blood Changes in Dementia Paralytica, by A. R. Diefendorf.

"Enteric or Typhoid Fever." *The Practitioner*, January, 1904.

The Practitioner devotes the January Number to a consideration of typhoid fever. The introduction is by Sir William Broadbent reviewing the papers which follow. There are articles on typhoid in Egypt,

India and China, and in South Africa during the war. Ætiology and prevention are discussed in two papers and Protective Vaccination in one by Professor Wright. The treatment of the disease is considered in four papers, one of which deals with the methods employed in Johns Hopkins Hospital. Para-typhoid infection has a paper to itself, by Dr. Hewlett. This collection of papers contains the most recent views on the whole subject.

Society Proceedings.

SOCIETE MEDICALE DE MONTREAL.

Meeting January 13th, 1904.

Dr. Valin, President, in the Chair.

Dr. Alphonse Mercier presented a pathological specimen of a cancer of the œsophagus. The cancerous growth perforated the œsophagus and adhered to the lung and pericardium. He also related the clinical history of the patient who died in Dr. Demers' department, at the Notre Dame Hospital. Dr. Mercier also presented an enormous sarcoma of the right kidney, completely filling the right side of the abdominal cavity, but not extending to any other organ.

Dr. Monod congratulated Dr. Mercier upon the specimens presented, and drew attention to the necessity of a physician wishing to make a good diagnosis, not to dwell upon one symptom, but to group all the symptoms and thoroughly examine the subject.

Dr. Oscar Mercier, who had catheterized the patient for a stricture of the œsophagus—added a few words, and remarked upon the dangers attending such a practice so useful to confirm the diagnosis.

Dr. L. J. Lemieux read a paper in the name and at the request of Dr. Marmoreck, concerning his report made a few months ago, on a new serum for the treatment of tuberculosis.

Dr. Dubé thanked Dr. Lemieux for this paper, the contents of which were already known to several, through the French medical press. In his opinion, Dr. Marmoreck had only sought to have priority. He hoped before long, that the antitubercular serum would become effective, but at present he would not dare to make use of it.

Dr. Lecavalier strongly insisted upon the non-effectiveness of the serum and its disastrous effects upon the patients placed under Marmoreck's personal attendance in the hospitals of Paris.

Dr. Alphonse Mercier did not admit the effectiveness of Dr. Marmoneck's serum and believed that serious reasons had forced Dr. Marmoreck to sever his connection with the Pasteur Institute. Upon the discovery

of his antistreptococcic serum Dr. Marmoreck found a most staunch supporter, in Dr. Roux, the leading authority in serotherapy, but at present Dr. Roux was absolutely opposed to this new antitubercular serum. A vote of thanks was officially transmitted to Dr. Marmoreck for his courtesy in forwarding his report.

The reading of Dr. Dubé's paper on Syphilis and Tuberculosis was postponed to the next meeting, and he moved that lecturers outside of Montreal be invited to address the society on subjects of their choice, and that Dr. Coyteux Prévost, of Ottawa, and Dr. Archambault, of Nashua, be invited.

OTTAWA MEDICO-CHIRURGICAL SOCIETY.

Seventh Meeting, January 14th, 1904.

H. B. Small, President, in the Chair.

Dr. Dewar showed the specimen of a dermoid cyst of the left ovary which was removed from a multipara. The interesting facts about the case were: the complete absence of severe pain, and, the slow growth of the tumour. It was first noticed some years ago before marriage, but beyond causing several miscarriages, it had given little trouble.

Dr. Minnes showed a specimen of Melanotic Sarcoma of the Choroid, and the patient from whom it had been removed. This case was in a young man of 20, first seen a year ago. He then complained of his vision being poor. An exudate could be seen in the choroid and the diagnosis rested between gumma of the choroid and sarcoma. There was a history of gonorrhœa and a possible history of syphilis. He was put on potassium iodide but he did not return until a month ago when the history of a recent blow was given. The eye was found filled with a black mass and vision was absent. There were two small ciliary staphylomata. Excision was advised; the condition was probably melanotic sarcoma, though it was possible to have resulted from a ruptured globe with hæmorrhage. He came back after two weeks—a considerable advance being apparent and immediate excision was done.

On making sections of the eye, it was found to be a melanotic sarcoma arising from the choroid in the neighbourhood of the optic nerve and corroding the sclerotic. On account of this latter fact, a complete removal of the contents of the orbit was done a week later. The wound healed well and the result looked promising.

The paper of the evening was read by Dr. R. W. Bruce Smith, assistant superintendent of the Hospital for the Insane at Brockville. The subject was "The Relation of Auto-Intoxication to Insanity, with Reports of Cases." The following is an abstract of the paper : Modern

methods of investigation and treatment are rapidly bringing asylums into closer resemblance to modern hospitals. It is being demonstrated conclusively that the study of insanity must be conducted along the same lines as are pursued in the investigation of other branches of medicine. We know little of the pathology or pathogenesis of the various insanities, yet in other diseases, advances in the study of Bacteriology and Physiological chemistry have gone far towards demonstrating that the great majority of the processes of disease in general are due to toxic elements in one form or another. May we not therefore look to the general or ganism to discover toxic elements which may originate directly or reflexly the conditions existing in the insane. The relation between changes in the nervous system and general somatic disease is often marked. The lapse of time between the two is so great that the relationship is overlooked.

To Bouchard and his associates must be ascribed the credit of co-relating auto-intoxication and various forms of insanity. All efforts to locate the lesion and demonstrate the exact nature of its pathology have failed to convince us that insanity is due to some definite morbific process or degeneration of nerve cells or neurons. On the contrary, if it be organic disease affecting the nervous system, then the causes we find for physical disturbances are many.

Recent observers have shown that the various fluids of the body undergo decided changes in the insane. The urine has been especially used to demonstrate this. The following conclusions have been drawn; first, that the toxicity of urine is markedly increased in melancholia and diminished in maniacal patients, as demonstrated by the fact that when injected into animals it produces symptoms similar to that form of mental disturbance in the patient from whom the urine was taken. This fact alone favors the idea that the toxæmia is the cause not the effect: second, that insanity is frequently produced by toxins is affirmed by recent investigations of acute infectious, visceral and diathetic diseases.

From this does it not seem a reasonable hypothesis to assume that the sympathetic relation existing between all acute forms of insanity and physical disturbances is capable in the majority of cases of actual demonstration? One of the best arguments in favour of the origin of insanity by auto-intoxication is deduced from the fact that antiseptic and anti-infectious treatment has often given good results.

Since the introduction of asepsis in midwifery the number of cases of puerperal insanity has been greatly lessened. Hansen, Idanoff, and others have laid great stress upon infection or toxic conditions as a cause of the lying-in psychoses. No distinctive organism has been demonstra-

ted in the blood or uterine cavity; yet Williams, of Johns Hopkins reports two cases of puerperal insanity in which pure cultures of streptococci pyogenes were obtained from the cavity of the uterus. Berkeley reports a case in which growths of streptococci were got from the blood and from the vaginal secretions during life. Clouston also reports a similar case.

Hansen estimates that 80% of the lying-in psychoses have an infectious or toxic origin. Cases of the latter class are due to the accumulation of certain chemical products of incomplete metabolism. These irritate during pregnancy, the nervous system and at the supreme moment of delivery lead to a pathological reaction in the form of an eclampsia, a psychosis or both.

Insanity in an acute or chronic form in the non-pregnant from a renal lesion is frequently met with, and the hallucinatory-confusional excitement closely resembles that so remarkable in puerperal cases. Eight years ago in a report of some observations gleaned from post-mortem examinations of the insane, the essayist called attention to the large proportion of cases in which a chronic kidney lesion was discovered without any previous history of alcoholism, syphlisi or gout. He pointed out then that there was more significance probably in the matter of kidney lesion than in the mere fact of its occurrence.

In the asylum, the mental disorders arising from auto-intoxication are most frequently due to intestinal putrefaction.

To look upon every recent case as having some physical cause by which we must endeavour to account for the mental phenomena is the only correct basis upon which to commence and continue the treatment of the acute insane.

The therapeutic advances achieved in the treatment of the insane have been few. The main object is to ascertain any pathological condition, local or general, and endeavour to correct the same. The use of intestinal disinfectants has been extolled by Bouchard and others, but the essayist has never been satisfied that his results could be attributed to such remedies. The preference is to rely more upon thorough and complete cleansing of the alimentary tract by the free use of salines and lavage of the stomach. The skin is to be kept free, and sedatives discarded as far as possible. Both ends are secured by the use of the spray bath. There is no sleep producing agent equal in its effects.

The following case reports are chosen to illustrate: Case I. M. H. C., aet 22. Single, farmer's daughter, housework. Previously healthy. Heredity denied. First attack of insanity one month before admission, assigned cause—domestic worries.

Medical certificate asserts that she is greatly excited, laughing and

crying at intervals. Talks incoherently and incessantly. Had delusions of persecution. Very suspicious of every-one. Marked insomnia, restlessness and excitability. On admission—restless, eyes wild and staring. Breath foul, tongue coated, teeth covered with sordes T. 101, P. 106. Pelvic organs normal. Digestion much impaired. Bowels very constipated.

Diagnosis: Acute mania. The stomach was irrigated, and food administered. Large dose of magnesia sulphate gave free motions, but excitement continued. She was given a warm shower bath and placed in a wet pack at 112°F. The mental excitement gradually subsided in three hours. On removal, she was sponged with alcohol and water. She slept for four hours. This treatment was continued for five days. The improvement continued and at the end of two weeks she was free from the auditory and visual hallucination. Tonics were administered and recovery was practically uninterrupted. She was discharged in six months and has been perfectly well since.

Case II. M. C., aet 24. Delivered 10 weeks ago. Pregnancy normal, labor protracted. Severe mania developed two weeks ago—quite difficult to control. On examination when admitted, the uterus was found to contain some foul shreds of membrane, which were removed by curette. Vaginal douches of 1—4000 bichloride of mercury were used twice daily for a week. Nourishment was given by stomach tube also cascara sagrada to keep the bowels open. At end of week, the shower bath was used twice daily followed by friction with rough towel. This was continued for two months. Recovery was uninterrupted. Patient was discharged in four months and had no recurrence during three years since.

Case III. S. C., aet 48, male, married, father of seven children, painter, always temperate, had gradually been growing peculiar and for a month before admission was much mentally disturbed; had delusions of persecution, of suicidal intent; at times lethargic; at times excited. When admitted was much depressed. Temp. normal, pulse 76. Urine scanty, dark and of Sp. Gr. 10 25. Skin flabby and cold—stomach and bowels irrigated. Was given hydrargyrum cum creta followed by salines, kept in bed and fed regularly on liquids. He was given a spray bath every day for a month. Bowels were kept open and he was urged to drink water freely. After remaining dull for two months, he was encouraged to take up an occupation and from that time his recovery was rapid. He went home in the tenth week after admission and has been perfectly well since.

In the discussion which followed, several of the members present took part.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Seventh Meeting, January 8th, 1904.

H. S. Birkett, President, in the Chair.

The meeting was held in the lecture room of the Physics Building, McGill University, by permission of the university authorities, and the attendance was unusually large, 114 members being present.

The treasurer, Dr. A. T. Bazin, presented the annual financial statement, which was as follows :—

TREASURER'S ANNUAL REPORT, SESSION 1903.

1902.				
	RECEIPTS.			
Dec. 30	Cash Balance on Hand		$ 241 95	
1903.	Subscriptions, Entrance and Annual		1,442 00	
Apl. 17	Repayment of Loan to Milk Commission		29 75	
1903.	Interest on Bank Deposit		8 17	
				$1,721 87
	EXPENDITURE.			
1903.	Rent, Heat and Light		$700 00	
	Caretaker		120 00	
	Attendant		123 00	
	Printing and Stationery		95 65	
	Journals		29 96	
	Insurance Guarantee		7 50	
	Office furnishings:			
	Balance on Typewriter	$35 00		
	Die for Crest	15 00		
	Seal and Press	20 00		
	Plate for Membership Certificate	35 00		
			105 00	
	Telephone		30 00	
	Secretary's sundry expense, 1903		50 00	
	Secretary's honorarium, 1903		50 00	
	Smoking Concert, Dec. 19, 1902		44 90	
	Sundries		1 50	
				1,357 51
1903.				
Dec. 31	*Cash Balance in Bank*			364 36
	Gross Assets:—			
	Arrears in Subscriptions		378 00	
	Furniture		688 84	
	Cash Balance in Bank		364 36	
				1,431 20
	Liabilities:—			
	Loan on Furniture		335 00	
	Outstanding accounts,			
	Treasurer's Sundry Expenses, 1903	$14 60		
	Caretaker, 2 months	24 00	38 60	
				373 60
	NETT ASSETS			$1,057 60

Professor E. Rutherford gave a lecture, with illustrations and experiments, upon Radium, and an abstract appears at page 112 of this number of the Journal.

Eighth Meeting, 22nd January, 1904.

H. S. Birkett, M.D., President, in the Chair.

The correspondence which passed between the Secretary and the Canadian Nurses' Association was read. It showed that the Council had declined to take any part in the deliberations of that Association in connection with the issuing of a new tariff of charges and the action of the Council was endorsed by the Society.

Dr. H. A. Lafleur presented a living case of myxœdema, and read a report upon the condition. He showed photographs taken before and after treatment with thyroid extract, to demonstrate the improvement.

Dr. Finley was of opinion that myxœdema did not occur so frequently in this country as it did in London; he had seen not more than two or three cases in Montreal, whereas in London they were fairly common. He noted the resemblance of myxœdema to Bright's disease, in respect of the condition of the kidneys, which in both cases yielded casts and albumin; another condition he had noted was deafness which usually subsided after the administration of the extract.

Dr. Lafleur in reply to a question, said that two different preparations had been used, but he was not aware of their relative strength. Dr. Birkett enquired as to the condition of the larynx and ears, and Dr. Lafleur stated that there were several lacunæ in the case report—the larynx, ears, fundus of the eye, and blood were not examined.

Dr. Shepherd said that he had had two cases of surgical myxœdema, of which one had been operated on three times for carcinoma of the thyroid. The patient developed myxœdema after the second operation, but the symptoms subsided after treatment with thyroid extract, and the patient was quite well three years after the onset. The other case followed excision of the thyroid. Dr. Shepherd remembered, that after hearing a lecture upon anatomy, in which the subject had been referred to, a student diagnosed a case in his own family and brought the patient for examination. The symptoms disappeared after the use of the extract.

Dr. George K. Grimmer gave a demonstration of the utility of paraffin injections in correcting deformities of the nose. He exhibited lantern slides and two living cases.

In the discussion which followed Dr. Craig gave testimony to the value of the method, and referred to the subcutaneous operation by Roe, of Rochester. In reply to a question by Dr. H. D. Hamilton, Dr. Birkett said, that so far as the American Laryngological Association was concerned, and he thought also the London Association, the sub-

ject had never been discussed, though not a few members had done the work. For his own part the cases which came before his notice were not those which would be benefitted by that treatment, but were those which had received injuries to the structures and those structures still existed and could be rebuilt. He had not used paraffin because he had no occasion to employ it.

Dr. Buller stated that before paraffin was thought of he did an operation on a nose in which there was a congenital depression of the nasal bones and widening of the epicanthus. This operation was done in the General Hospital in 1893, and consisted of placing a piece of glass under the skin and making a fairly presentable nose. The surface was laid bare to the periosteum; the glass, which was made by a lapidary from a mould of wax, was inserted and the wound stitched with four or five sutures when immediate union took place.

In reply to Dr. Kerry, Dr. Grimmer stated that the occurrence of embolism was practically a thing of the past, though in the earlier days three cases had been reported.

Dr. Bell read a case report upon Migration of Needles from the Intestine into the Surrounding Tissues. The case is reported on p. 108 of this number of the Journal. Duplicates of the needles and a piece of glass were exhibited and skiagraphs shown.

Dr. Lockhart recalled a case of a woman who had introduced a crochet needle into the uterus for purposes of emptying its contents. She came to the hospital and for a fortnight was under observation, but the needle could not be found; there was on admission pain and one degree of temperature. Two days after arriving home the uterus emptied itself, and she came back with pain in left half of abdomen which was sharp and shooting and aggravated when pressed upon. On careful examination a linear mass was made out, though the skiagraph gave a negative result. The abdomen was opened and the pelvic cavity explored thoroughly and nothing found until the hand passed up along the left side of the abdomen, when a hard structure immediately in front of the left kidney was felt. It proved to be the needle, and it was half imbedded in its whole length, with the point in the wall of the intestine, though not perforating it. On examining the uterus more carefully, one found just above the tip of the fundus a scar of a small perforation, evidently the point of perforation of the needle. The patient made an uninterrupted recovery.

The President announced that Dr. Harvey Cushing, of Baltimore, would address the next meeting of the Society.

THE

MONTREAL MEDICAL JOURNAL.

VOL. XXXIII. MARCH, 1904 No. 3.

THE INTESTINAL TRACT AS A SOURCE OF INFECTION.

BY

R. E. McKECHNIE, M.D.

In discussing the intestinal tract as a source of infection, I shall probably present facts, some of which are familiar to all of you, all of which are familiar perhaps to some of you, for there is no new thing under the sun, but my grouping of ideas will be new, and so a pen picture will be made, which I trust will convey to you the thoughts I have had, and the conclusions I have reached.

Each of us looks at a subject from his own point of view. Now, to-night, I want you to look at this important subject from my point of view, and having seen the picture I have seen, go away impressed with the thoughts which the work of others, masters in the art, has impressed on me. Living here, where West is East and East is West, at the outer fringe of civilization, with the centres of learning far removed from us, with poorly equipped hospitals and little opportunity for anything but routine work, it is almost impossble for any of us to be able to introduce, through our own work, anything new to the profession. All we can hope to do is to keep close to all advances made elsewhere, not to lag too far behind in the march of progress, and later as our opportunities increase, let us hope that some of our number may attain to eminence through important discoveries made by their own scientific work and research.

Much discussion has arisen over the classification of intoxications, exogenous or endogenous, some authorities including in the latter those intoxications due to absorption from the intestinal canal, others eliminating this latter group, and confining the term endogenous to those groups where the toxic products are formed in the tissues themselves. This would leave the intestinal tract as an exogenous source, and so I take it. Morphologically it is similar to the skin with which it is directly connected, and the fact, that this canal merely runs through the body, is not sufficient to make its classification different from that of the skin. Like the skin, it communicates directly with the exterior environment.

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and hence, must always be septic, if we except the first few hours after birth. Holding in its lumen an ever present culture medium, the fæces, kept at the best temperature for growth, with but feeble antiseptic agencies at work to keep in check the growth of its contained bacteria, we find then its contents literally swarming with many varieties of microbes. The skin by adaptation to environment, has become hard and practically impenetrable, but the mucosa of the intestines, ever bathed by its warm, moist contents, has remained soft and pervious, and has developed for one of its chief functions the power of absorption, absorbing the products of digestion from out of this reeking mass of bacterial activity. How is it possible for this great absorption to go on, without the entrance of numerous bacteria into the organism? What plan has Nature prepared to protect herself?

It has been assumed that the normal mucous membrane forms an impenetrable barrier to the entrance of bacteria into the organism, and hence that the tissues of a healthy animal are sterile. Experiments have been undertaken to prove this; most elaborate bacteriological examinations have been made of the internal organs of freshly killed animals, employing the most approved methods of technique in handling the specimens and in utilizing the various culture media. The opinion arrived at in Germany was, that healthy tissues so obtained are free from bacteria. In America, Welch, of Baltimore, in 1891, speaking with especial reference to the Bacillus Coli, stated (Ford) "that he had only found this bacillus when there was present a distinct lesion of the intestinal mucosa." One of our own observers (Ford), working in the McGill Pathological Laboratory, has succeeded in proving the falsity of these experiments, and has found that at least 70% of the cultures made from the internal organs of domestic animals yield bacteria. He followed the same technique as the others, but they discarded their cultures as sterile on the third day, whereas he never found any cultural activity before the fourth day, and in some instances it was delayed as late as the seventeenth. We know that the blood and the tissues generally possess more or less bacteriacidal properties and Ford supposes that the pieces of tissues used in these experiments possessed sufficient inhibitory power to prevent any active growth in the first three days. Later, this power diminishing, the bacteria were permitted to develop, proving that normal tissues may contain bacteria. Among those so isolated, may be mentioned staphylococci, both albus and aureus, and bacillus coli. It will be interesting to study their manner of entrance, a subject which has been admirably worked out by A. B. Macallum, of Toronto, whose name as an investigator has reached beyond this continent. In experiments on feeding iron, he found leucocytes free from

iron apparently passing between the epithelial cells towards the lumen of the bowel, others loaded with iron actually in the lumen of the bowel (outside of the body as it were), and these same ironladen leucocytes were traced back between the epithelial cells of the mucosa, into the venules of the villi and into the capillaries of the liver and spleen. These leucocytes while taking up iron and food stuff, from the cavity of the bowel itself, without doubt in their migration back into the tissues, carry innumerable bacteria. This has been proved by many observers, the bacteria being in a more or less disorganized condition. Thus Ruffer found bacteria-laden lymphoid cells on the free surface of the mucosa and between the epithelial cells while the cells of Peyer's patches contained enormous numbers. But Nature has prepared a line of defence in these same lymphoid elements so that normally the bacteria are destroyed—"the tendency is for the entering bacteria to be rapidly destroyed." (Adami).

The foregoing proves, that while these structures tributary to the intestinal tract, are not normally absolutely sterile, they are nevertheless potentially so, and it is only when the equilibrium between attack and defence is disturbed, by a weakening of the powers of the leucocytes, or by affording more favourable opportunities for development to the bacteria, that infection, properly so called, takes place from the intestinal tract.

Adami says, "if it does happen that bacteria enter the circulation under ordinary circumstances, all will agree, that the more frequent regions of entrance are likely to be found, not so much in connexion with the denser epithelial surface of the body, as in connexion with the more delicate mucosæ of the respiratory and alimentary tracts, * * * in connexion with this alimentary tract we have very definite evidence that here bacteria may penetrate the protective barrier of epithelial cells, nay more, that they are *constantly* being taken into the system."

One would hardly class Hydatid disease as one of the infections from the intestinal tract, although we know that it invades the organism by this route, but abscess of the liver from Amœba infection would come within the range of our discussion. However, owing to its rarity in our country, we need not take up time with it. But the complications of typhoid are liable to be met with by us at any time. Although it is rare, according to late investigators, to find the bacillus in the stools after the second week, still infection has already occurred through the alimentary tract, and the bacilli can be demonstrated in many complicating lesions. I wish to call your attention especially to its infection of the biliary tract, for late investigation is clearing up much of the mystery of Cholelithiasis. The lower third of the common bile duct is

normally septic, infected by direct continuity with the lumen of the bowel. Whether infection of the bile passages by typhoid germs occurs by direct continuity or through the lymphatics or blood, matters little. Musser says, that Cholecystitis mild or severe, may develop in the course of typhoid fever, generally in the third or fourth week, or even during convalescence, and he warns us to be on the lookout, as he says, many so-called relapses are not true typhoid relapses at all, but mild cases of Cholecystitis. These are to be noted as primary attacks, imitating changes leading to gallstone disease which, later, through secondary infection gives rise to septic Cholecystitis or Cholangeitis. Thus Rudolph of Edinburgh, says, "typhoid fever frequently appears to produce this condition (cholecystitis), as was first pointed out by Bernheim in 1899, and it is interesting to note that the typhoid bacillus may be in the gall-bladder for years, and the patient will give the Widal reaction, years after the enteric fever has occurred." Hence, in Cholelithiasis, we should remember typhoid as a possible initiating cause. This subject of Cholelithiasis is the most interesting which can be discussed in connexion with infection of intestinal origin. The old theory that gallstones were formed by deposition of cholesterin crystals from a too thick bile, has been exploded, for it cannot be so produced experimentally. It was thought that the gallbladder played the most important part as a settling basin in their formation, but gallstones are found in elephants which have no gallbladder. Naunyn has shown that most of the cholesterin is produced by the action of an inflamed mucous membrane. Mignon, Fournier, Gilbert, Cushing and others have produced gallstones experimentally by injecting attenuated cultures of typhoid or colon bacilli into the gallbladder. Another observer, Mieczkowski, found the bile sterile in every case *not* cholelithiac, but containing bacteria in 18 out of 23 cases of Cholelithiasis. All catarrhal processes are not necessarily caused by bacteria. Stagnation, due to pressure of enlarged glands, tumours, kinking of the ducts from adhesions, and so on, could cause the same predisposing catarrh. But this catarrh predisposes to infection. The French school is very positive about the bacterial origin of gallstones. Gilbert and Fournier divide them into two classes, those due to the colon bacillus and those due to the typhoid germ. Legars of Paris, says, the microbian origin of biliary calculi has been demonstrated, by finding microbes in calculi, by producing calculi expermientally by injections of microbes, and finally certain cases in the human have been observed, where calculi have formed during an acute infectious process. The existence of microbes in the centre of gallstones, in one case out of three found at post-mortems, has been proved; calculi have been found in a boy of 14 a few weeks after an attack of typhoid. In a woman of 53, 17 years after typhoid and after 7 years

suffering from hepatic colic, cholecystotomy was performed. The fluid contents of the gallbladder contained typhoid bacilli, which were also found in the gallstones. In another case, four weeks after an attack of typhoid 58 small cholesterin calculi were removed from the gallbladder, and in these calculi as well as in the purulent contents of the gallbladder Eberth's bacillus was found.

These observations prove that Cholelithiasis is to be regarded as an infective disease, and like Appendicitis should be treated surgically. Legars says further, "the infectious origin of biliary lithiasis is proved, and this point is of the greatest importance as regards treatment, for the following reasons: If we have shown that gallstones do not depend on general and obscure humoral conditions, but on a local infectious process, the disorder becomes for the most part also a local matter, and as such accessible to direct local means: If when calculi are once formed, they increase and multiply, we can still be sure that they are due to a single attack of lithogenous infection. "At a given moment, often very remote, microbian invasion of the gall-bladder took place, and these microbian invasions of *intestinal* origin depend on various causes, and may occur in the course of different acute disorders; at any rate the calculous disorder comes from them, from this primordial lithogenous Cholecystitis. Once more, it is a complaint of the gallbladder and ducts, not of the bile, and lithogenous Cholecystitis is comparable to many other localized infections, such as Appendicitis for instance. By removing the calculi or the gallbladder recovery may be complete and final. Fnally, we find infection not only at the origin of lithiasis but also at all the other stages of the disorder; it is the leading factor of the various complications as well as of the prognosis of the complaint."

Deaver says: "It can be emphatically stated that gallstones are always the result of precipitated salts and tissue debris following in the wake of bacterial infection, mild or severe in degree. Furthermore, the complications of chronic gallstone disease, adhesions, ulceration, fistulæ, liver and pancreatic disease are also due to infection." He also says, "the treatment of chronic gallstone disease, its complications and sequelæ can only be surgical. Gallstones are formed through the aid of infection and therefore the disease is local and requires local treatment, that is operation, and not solvents or cholagogues to relieve a condition resulting from faulty metabolism." Angiocholitis is also another disease, due to direct infection from the bowel, usually secondary to Cholelithiasis but it may be primary without a lithiac condition.

As regards Hepatic Cirrhosis, it has been proved that one of the functions of the liver is to destroy bacteria, brought from the bowel by the

leucocytes. Adami has by his investigations shown that a probable cause of Hepatic Cirrhosis is an infection by the colon bacillus, adding another to the list of diseases due to infection from the intestinal tract. Even Pernicious Anæmia may be due to a virulent infection of the upper gastro-intestinal tract by the colon bacillus, pure cultures of this microbe being found in the stomach (in the absence of hydrochloric acid), and numerous remains of this germ, iron laden, in the liver, this latter observation proving the destructive action of the infection on the red cells of the blood.

Pancreatitis, according to Deaver and other observers, either acute or chronic, accompanies gallstone disease in many instances, and for the reason that in both diseases the same factors operate. Infection and obstruction, of the excretory ducts of the pancrease and biliary tracts, are responsible for the lesions of those organs. Woolsey, of New York, in three cases of acute Pancreatitis operated on, had bacteriological examinations made in two, finding cocci in both. Mayo Robson says, that the causes of Pancreatitis are the same as those of the gallbladder, namely infection. He says there are three modes of infection, by contact of organs, by the blood, and by the duct, the last the most common route, as well as the most apparent. He says further, that in post-mortems on such cases, he has generally found infection with the colon bacillus, less often by cocci.

Mikulicz also says, "we know to-day, thanks to the researches of Robson, Opie and Koerte, that the pancreatic duct, like the common bile duct, is easily infected from the dudoenum. The surgeon should always bear in mind that acute and also chronic pancreatitis often follows cholelithiasis and cholangeitis, as the infection travels from the bile duct through the ampulla of Vater in a backward direction to the pancreatic duct." Again he remarks, "from what has been said, it is evident, that chronic pancreatitis must always be considered in making a diagnosis of cholelithiasis; and further, that with gallstones and cholangeitis, especially when the common duct is involved, one must be prepared to find a lesion of the pancreas."

The infective nature of appendicitis is so evident, and the source of the infection from the bowel so obvious, that this very important class can be passed over in a few words, and yet it is only a very few years ago that knowledge on this subject was very hazy. Deaver, in his work on Appendicitis found pure cultures of the colon bacillus in over 72% of acute cases, while this bacillus was found either alone or with other bacteria in 91% of acute cases and 96% of chronic cases. The other bacteria found were staphylococcus pyogenes albus, and aureus, bacillus pyocaneus and streptococcus pyogenes. As all these may normally be found in the bowel, we have not far to look for the source of infection.

Of tuberculosis we need to say but little. Whether it occurs as a primary affection of the bowel, which Koch denies, we know it does occur as a secondary, and consequent to it we may have tubercular infection of the peritoneum, appendix, mesenteric glands, etc. Many other conditions can be traced to infective processes originating in the bowel, as empyema, meningitis, thromboses, etc., but I will conclude by a brief reference to infection of the kidney. Futterer, of Chicago, on injecting bacillus coli into the jugular vein of a dog, was able to find this microbe in the pelvis of the kidney in two minutes. Many other observers have had similar results, proving that one of the active functions of the kidneys as of the liver, is the excretion of bacteria. While in Vienna, I saw three cases of colon bacillus infection of the kidneys, pure cultures being obtained from the urine. In none of these cases was there any cause leading to this infection other than exposure. Since coming home I have had a similar case in a child, from which I easily isolated the colon bacillus. How are we to account for this? Normally, as we have seen, bacteria are being constantly taken into the body from the intestines, and we can easily suppose a condition to arise, when coincident with perhaps a reception of a larger number of microbes than usual, the resisting power or bacteriacidal power is lowered, by the effects of exposure, and so bacteria, potential to harm, reach the kidneys. We have scarlatinal nephritis, why not nephritis due to colon bacillus infection?

Lastly, researches have shown that during digestion, large quantities of bacteria are taken up by the leucocytes and carried into the system, while with an empty bowel this invasion comes to a standstill. This shows the importance of having the alimentary tract well cleared out before an operation, for if the invasion goes on, while the resisting powers of the organism are lowered by the shock of operation, it is easily seen how complications may arise through infection from the intestinal tract.

AN EPIDEMIC OF WATER-BORNE TYPHOID.

BY

JOHN A. HUTCHINSON, M.D.
Medical Health Officer, Westmount.

The epidemic to which I wish to direct your attention, occurred in the suburbs of Montreal, during the months of December, 1903, and January, 1904. The entire period of infection seems to have been in December, as very few new cases were reported after the middle of January.

It is very difficult to estimate the number of typhoid cases occurring

in Montreal and its suburbs during past years, because the law in regard to the reporting of typhoid patients has been practically ignored by physicians, and the provincial and local boards of health have allowed the law to be ignored. The reason given for this state of affairs, was, that, even if typhoid cases were reported, no action was taken; the children of the household were allowed to go to school, no placarding was necessary and no particular isolation was demanded. However, typhoid in this district seems to have prevailed sporadically during many years, but the number of cases was not in excess of other places of equal population.

The city of Montreal with the exception of St. Denis ward, has not had an excessive number of cases of typhoid this season, and this epidemic has been confined to the suburbs and St. Denis ward, which obtain their supply of water from a different part of the river. This fact would at once draw attention to the water supply as the cause, if other evidence was wanting, but in this case an array of evidence has accumulated that puts the cause of this typhoid outbreak beyond all doubt. Besides the cases of typhoid there were undoubtedly many cases of paratyphoid, diarrhœa with high fever and other illnesses resembling typhoid. At the time of the outbreak the weather was very cold and many cases of grippe occurred, so that for a while the situation was rather confused. However, I have reports from practising physicians that 82 cases of genuine typhoid occurred in Westmount, which has a population of about 10,000. These cases all took place inside of one month. How many cases occurred in the other municipalities supplied by the same water company I am unable to state definitely, but from reliable reports given me by practising physicians and health officers, I consider that they had an equal number according to their popoulation. St. Henri, with a population of 23,280, had over 200 reported to the health officer. In Westmount the patients were in all parts of the town, the rich and poor alike and all ages were attacked. The milk supply was fully investigated. The 82 patients were supplied by 28 different milkmen and no individual milkman appeared to have an excessive number of typhoid patients who received his milk. On investigation no typhoid cases were found to have previously occurred at any of the dairies supplying milk in the town. This epidemic occurred late in the season, when typhoid is usually on the wane. The number of deaths was below the average, only 3 in Westmount out of 82 cases. The average time, before convalescence, was shorter than in the case of sporadic typhoid.

The discovery by Eberth of the bacillus typhosus, and confirmed by Koch, Meyer, Gaffky and others, is now accepted as the cause of typhoid. That water is the chief mode of conveyance of the infecting

bacillus, there can now be no doubt. The history of the epidemic at Plymouth, Pa., in 1885, at Paisley in 1893, at Maidstone in 1897 and at Belfast in 1898 prove this beyond cavil.

The recent epidemic at Butler, Pa., also illustrates the conveyance of typhoid by means of the drinking water. This was caused by the cessation of the use of the filtering plant for a short time. Immediately following this, typhoid occurred in Butler to an alarming extent. On resuming the use of the filter, the typhoid ceased. Also in February of 1903, Kingston, Ont., had an experience of water-borne typhoid, very similar to our own, and there it was abundantly proved that the cause of their epidemic was a broken pipe from the intake.

For several years an agitation has been going on with regard to the source of water supplied to the town of Westmount. The position of the intake was viewed with grave suspicion, as, at certain seasons of the year, it was in danger of being contaminated. The Montreal Water and Power Company, a private corporation, supplies water to all the suburbs of Montreal and St. Denis ward in the city, but Westmount and St. Henri appear to be the only municipalities that have taken any steps to ascertain whether the water they were getting was good or bad.

Two years ago Westmount Council engaged Mr. Milton Hersey to make an examination of the water. He reported that it contained Bacillus Coli Communis and other intestinal bacteria. Some doubt attached to this report, as the water was not taken from the intake or from the taps, but in different parts of the river near the intake. In the summer of 1903 the Health Committee of Westmount engaged Dr. Bruere to examine the water bacteriologically. He reported on July 8th that the samples obtained from the taps in the town gave evidence of fæcal contamination.

Among the micro-organisms isolated and identified were the Bacillus Coli Communis, B. Vulgaris and B. Alcalescens. He concludes this report by saying that he is of opinion that the water supplied to Westmount is contaminated with surface water, containing animal excreta. On September 5th he reports another bacteriological examination of the water and again finds the presence of the Coli group.

On November 10th Prof. Starkey reports the results of his examination. The closing paragraph of it will give his estimate of the water. It is as follows: (1) Taking into account the nature of the water, the total number of organisms per c.c. is somewhat higher than one would expect. (2) The presence of the chief representative of the group of intestinal organisms, viz., Bacillus Coli Communis, in such numbers as found in the examination, certainly calls for serious investigation as

to the source of such. These two principal facts, coupled with the minor ones, viz., the existence of fair numbers of staphylococci, proteus vulgaris and of cotton, linen and wool fibres make one decidedly suspicious of contamination of the water, and would make one necessarily very diffident about recommending such as a safe potable water.

Again, on January 12th, when the epidemic was in full blast, Prof. Starkey took samples of water from the taps of houses where typhoid existed. His report is much of the same kind as the last one. In it, he says, "Again the presence of the bacilli of the Colon group is in undiminished numbers, as compared with the November samples. The present sample of water is just as suspicious, if not more so, than the sample tested by me in November." It may be here stated that the bacillus typhi was not found by any of the bacteriologists.

However, it is an acknowledged fact, that it has often occured, that B. Coli has been found in water supplies, where outbreaks of typhoid followed, while B. Typhi was not detected. Instances of this kind occurred at Maidstone and Belfast.

In the summer of 1902 I made the following statement in writing to the Westmount Water Committee: "The number of typhoid cases, though not great, is such as to call for investigation, as this disease is largely due to germs contained in the water consumed for drinking purposes. The supply used by the people of Westmount has not been properly investigated in the past. The intake of the Montreal Water and Power Company is not without suspicion, as filthy water from the north shore of the river might possibly contaminate it at certain seasons of the year. At the time of low water in the river this autumn, I advised the Water Committee to make an investigation of the currents, in order to prove, if possible, whether filthy water from the shore could reach the intake."

This advice was not acted upon until a year later, then too late to prevent this deplorable epidemic.

This year a commission of engineers was appointed to examine the currents from the north shore, and in an interim report they say: "The fact that during the periods of low water, and at unusual low water stages, as in November and December last, when the minimum flow of the river prevails, the Verdun sewer discharge then bears a larger proportion to the volume of water in the river, and the water is more susceptible to contamination than at any other time. Also, because the early ice forms on the shoals at low water, changing the direction of the currents towards the intake, and this condition exists until the water rises. For these reasons, and to secure the water supply at such a time from any possible danger of sewage contamina-

tion, we are of the opinion that the Verdun sewer outlet must be removed."

About two weeks before this outbreak of typhoid the ice did form when the water in the river was very low (there being little autumnal rains), and changed the currents from a polluted shore to the intake. The typhoid epidemic was the result. Typhoid cases were known to have occurred in Verdun sporadically during the last few years, and also this autumn several cases occurred.

The foregoing evidence shows that our drinking water was to a certain degree contaminated by sewage throughout the year, but about the latter part of November or the first part of December, a new current had formed by ice formation, conveying filthy water from the Verdun shore out towards the intake. Two weeks after this new channel had formed, typhoid cases began to be reported in great numbers. The chain of evidence is very strong, that our typhoid outbreak was due entirely to contamination of the water supply by sewage from the Verdun shore.

The appended diagram shows the position of the intake, in relation to the Verdun shore and sewer.

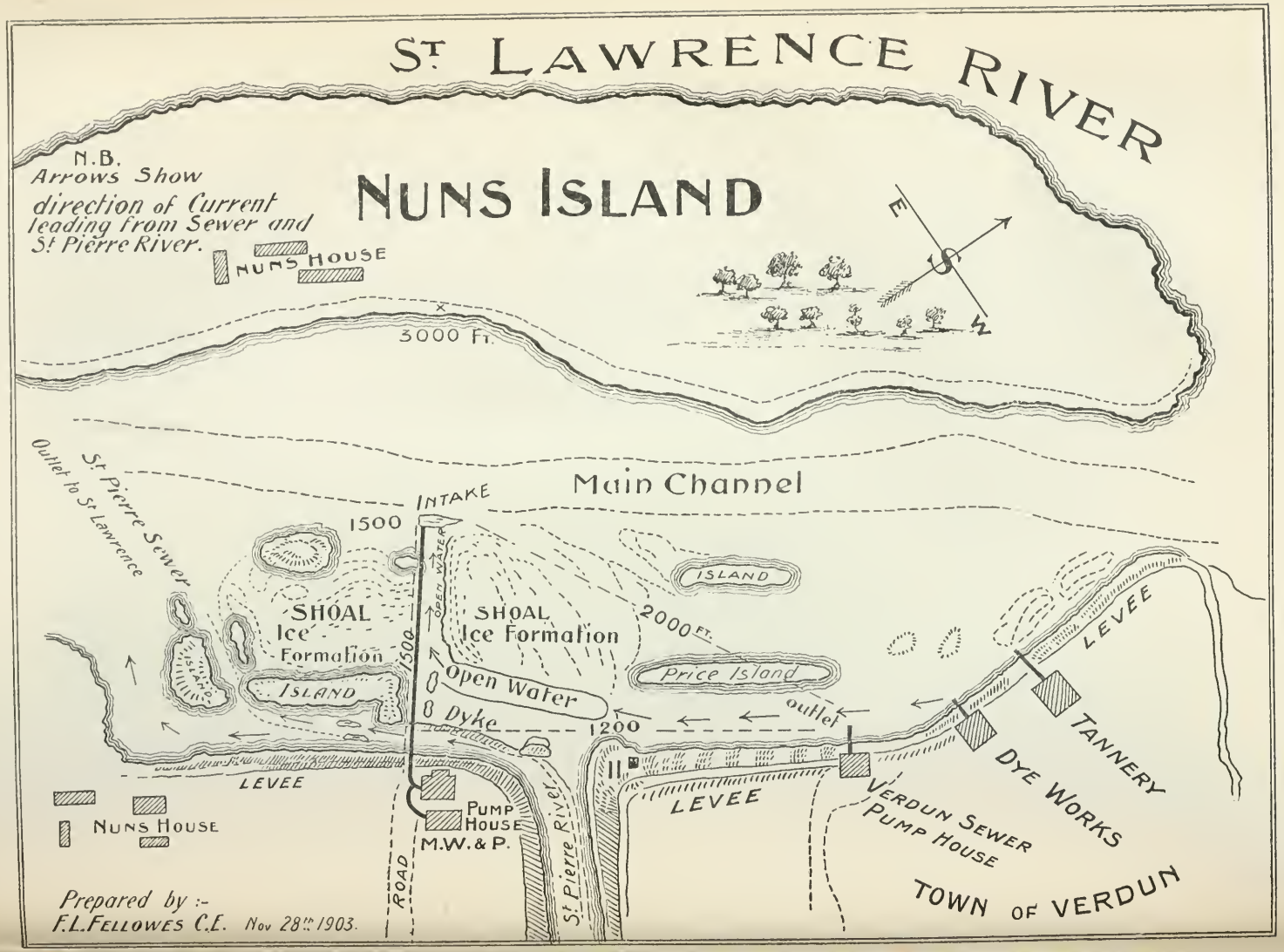
At the time of the epidemic, but after the period of infection, the Provincial Board of Health, instructed their bacteriologists, Prof. Adami, of McGill University, and Dr. Jules A. Chopin, to make an examination of the water supplied to St. Henri. It must be kept in mind that at the time this water was taken for examination the water in the river had risen, and the suspected channel had probably greatly altered its direction.

Their endeavours were directed towards determining whether the water supplied to the municipality of St. Henri presented bacterial evidence of sewage contamination, and whether they could isolate from that water the bacillus of typhoid fever, and so demonstrate a relationship between the water supply and the epidemic of typhoid fever from which the municipality has been suffering.

The following are their conclusions:

1. "That the number of colonies of bacteria obtained from those samples of the different waters above-mentioned, examined by us, afford no positive evidence of sewage contamination of the water supplied to the municipality;

2. That, while all samples of the suspected water without exception afforded us evidence of the presence of gas-forming organisms, of microbes, that is, which, if present in any considerable number, are indicative of sewage pollution, nevertheless, when we made an exact determination of the number of coli forms present in the suspected


St Lawrence River
N.B.
Arrows Show
direction of Current
leading from Sewer and
St Pierre River.
NUNS ISLAND
NUNS HOUSE
3000 Ft.
E
S
W
Main Channel
St Pierre Sewer
Outlet to St Lawrence
INTAKE
1500
SHOAL
Ice
Formation
150
SHOAL
Ice Formation
OPEN WATER
ISLAND
ISLAND
2000 Ft.
Price Island
Open Water
Dyke
1200
Outlet
LEVEE
LEVEE
TANNERY
DYE WORKS
VERDUN SEWER
PUMP HOUSE
LEVEE
NUNS HOUSE
PUMP
HOUSE
M.W.&P.
ROAD
St Pierre River
TOWN OF VERDUN
Prepared by :-
F.L.FELLOWES C.E. Nov 28th 1903.

water, the number found was not more than that frequently present in water that is regarded as of fair quality—not more than might, for example, be obtained from the watetr supply of the city of Montreal;

3. That, as regards the specific presence of the bacillus of typhoid fever, we have been unable to detect it;

4. That, nevertheless, while all these methods have failed to afford clear indication of sewage contamination, our investigations lead us to be convinced that it exists, or existed. We have found in the St. Henri water a micro-organism possessing very characteristic properties, a form which we believe has not as yet been described, and we have aiso been able to isolate the same organism (one possessing similar properties) from the sewage water at the pumping station of the Verdun sewer."

The existence of this new micro-organism in the water may explain those cases of paratyphoid and other cases simulating typhoid. Also, I may say, that in my own practice, I had several patients, presenting the general symptoms of typhoid, but not accompanied with an enlarged spleen or rose spots. Other physicians, who have attended many of the cases during the epidemic had the same experience. However, these were the exceptions; the great majority were undoubtedly genuine typhoid.

HUMAN AND COMPARATIVE MEDICINE.

BY

CHAS. H. HIGGINS, B.S., D.V.S.,
Pathologist, Department of Agriculture, Ottawa.

In selecting the title of my paper, I little realized how broad the subject which I had taken would prove to be, although I knew that the interdependence of the one profession on the other was greater than is generally supposed. Had I anticipated that there would be such a vast amount of material at hand I would have confined myself to a less comprehensive statement, that details might be given more prominence than is here possible. However, in dealing with the subject, the desire will be to present in a different light some of the more common facts concerning the relationship existing between Human and Comparative medicine.

As a rule, medical practitioners are accustomed to look upon the practitioner of Comparative medicine as lacking in many of the essential qualifications necessary to place him on an equal footing with his

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confrères in Human medicine. In this, I will not attempt to deny what is a well known fact, namely, that men presenting thmselves for the study of Comparative medicine, have not been required to show qualifications equal to those necessary to enter the modern school of human medicine; nor, has it in many instances been sufficient to place them in a position to easily assimilate the knowledge imparted to them or to use to best advantage the educational facilities placed at their disposal during their college course.

This statement while true, is however, not without its exceptions, for there are men engaged in the practice of Comparative medicine, who, previous to their professional studies, had pursued college courses. Also, there are men who have from choice taken up its practice after pursuing courses and obtaining with honours both degrees.

The men themselves, however, are not to blame for this lack of educational qualifications, nor can we say that the institutions where this branch of the one great profession, that of medicine, is taught, are wholly responsible, for in many instances, the teaching staff has worked unceasingly with little or no remuneration for their services. On the other hand, the majority of institutions at present engaged in the teaching of Human medicine are richly endowed, the teaching staff is as a rule well paid and applicants are required to undergo strict examination to determine their fitness, before they are allowed to pursue their course.

Comparative medicine, I am happy to say, is awakening from its lethargic state, and is also, in certain instances, receiving the needed financial aid. At the present time almost all of the colleges have increased their curriculum from two to three years; and now we note a further advance in some cases, from three to four years, with a corresponding increase in the qualifications necessary for eligibility to pursue its study. This lengthening of the course is not without reason, for, is it not much more difficult to learn not only the anatomy, but also the physiology, together with the therapeutic action of the various drugs, on, not a single specie, as is the case in Human medicine, but upon a large number which are in no way related?

Take for instance the horse with a single stomach, relatively small for the size of the animal, indicating that he must be fed little and often to supply the necessary material for the repair of broken down tissue: compare him with the dog, an animal that can live comfortably on one meal a day. Also consider the ruminants, with their four stomachs, the first of which acts as a huge storehouse, the second preparing the food for remastication at the leisure of the animal, after which, in its return down the œsophagus it passes these two stomachs and enters the third, from thence to the fourth or true digestive organ.

In the physiological action of drugs we have as wide a dissimilarity as has been noted in connection with the very brief mention of the digestive apparatus. For example, under the influence of opium the pupil of the eye of the horse dilates, while that of the dog contracts. Strychnine may be used in large amounts with horses or cattle while dogs are very susceptible to its poisonous effects. One might indefinitely discuss variations similar to those already mentioned.

In disorders affecting the lower animals, diagnosis is dependent on two factors, the history of the case, which in the majority of instances is given by incompetent persons, and upon the physical examination of the subject. Since the historical speech of Balaam's ass, the lower animals have been deprived of the ability to communicate with man, consequently we are obliged to depend almost wholly upon the development of the reflexes to locate their disorders.

Thus, we are very forcibly impressed that the individual adaptability and the educational qualifications necessary to prepare practitioners of Comparative medicine for their life work, should be equal if not superior to those accorded the student of Human medicine. In Comparative medicine as well as in Human medicine, the personality of the individual plays an important part in his successful career, it being as necessary in many cases to treat the peculiar whims of the owner of an animal, as it is equally necessary for the Human practitioner to treat the patient and not the disorder.

Surgery, in its present state of perfection has only been made possible through animal experimentation and the development of that specialty, bacteriology. To as great an extent as any specialty, surgery has been investigated by practitioners of Comparative medicine, and indeed, some of the more common operations of to-day were originated and first performed by men who made their living, ministering to the ills of the lower animals. To be sure, many of these would to-day be termed "quacks," but they were nevertheless very skilful considering their work from the knowledge of their time.

To cite an instance, the following extract from Baas [1], being a portion of an article by Gould [2], in the Journal of the American Medical Association.

"The first Cæsarean section on the living and parturient woman was practiced by the sow-gelder, Jacob Nufer, of Siegershausen in Thurgau, on his own wife, about the year 1500. After thirteen midwives and several lithotomists had endeavoured in vain to relieve her, her husband, having invoked the assistance of God and obtained special permis-

[1] "Outlines of the History of Medicine and the Medical Profession." Joh. Herman Baas, M.D., 1889. Page 403.

[2] "Medical Discoveries by the Non-Medical." Geo. M. Gould, M.D. *Journal of the Amer. Med. Asso.*, May 30, 1903, p. 1477.

sion of the governor of Fruenfeld, operated, 'just as on a sow' with such good fortune that the mother survived to the age of 77, and was able subsequently to bear several children—and even twins—in the usual way. Undoubtedly, therefore, the operation was unnecessary, and the same was true of many of the operations which soon followed, for Cæsarean section became the fashion for a short time. A sow-gelder is said to have removed the ovaries from his daughter in consequence of her laciviousness, during the 16th century (Weyer tells the story), so that such fellows, as operative gynecologists, are to be considered the predecessors of Hegar, and to be praised accordingly.

As a result of this enrichment of the technique of operative midwifery by a simple sow-gelder, the Cæsarean section seems in the course of the 16th century to have been practiced repeatedly, in Italy in 1540, by Christof. Bain, 1531; in Neusse, 1549, by Paul Dirlewany; on Marie Volscer, in Vienna, etc. Now it was performed in a somewhat more becoming fashion, and chiefly by barbers, though some will admit as the first Cæsarean section only the one performed by the surgeon Trautman in Wittenburg in 1610."

In more recent years we have the operation "tenotomy" first performed on the horse by a veterinary surgeon, Mr. Dick, father of the late Professor Dick, of the Edinburgh Veterinary College. Since that time the operation has been repeatedly performed in the relief of certain forms of lameness, particularly in horses. So successful has this operation proven in the hands of veterinarians that surgeons have taken it up in the repair of certain deformities of the human being, and it is frequently practiced in the majority of hospitals.

A further consideration of the relationship of the two professions may be undertaken by a brief mention of public health matters. It is the duty of the practitioner of Human medicine to take precautions with a view to preventing the communicability of the infectious diseases common to man. It is as well the duty of the practitioner of Comparative medicine to guard against the spread of contagious diseases among the lower animals, more particularly those which would, if allowed to take their course unchecked, jeopardize the live stock interests of the country; also those which are communicable to the human being, and as well, such diseases as would render the food products from animals unwholesome for human consumption. Both professions are concerned in the wholesomeness of our food products, and, as they are each educated on distinct special lines, their combined knowledge is invaluable to any country.

It is even necessary, in this age of specialization, to go further than a mere division of the work among the two professions, for the general

practitioner of either branch, is neither able nor capable of making a comple study of the various questions which enter this great problem.

In the matter of milk supply, which no doubt is of more concern to you as individual practitioners, experimenters have shown the conditions it is necessary to maintain to make it pure and wholesome. Veterinarians, cranks on ventilation and general sanitation, indicate the conditions best suited to maintain the health of the animals. Chemical analyses of the various foods and also of the water given to the animals, as well as analyses of the materials excreted by the system have given the proportion which furnishes nourishment to the body of the animal as well as that entering the milk. Breeding claims its share of attention and has been studied by practitioners of both professions with the result that it has been shown that the fat globules of certain breeds possess certain mechanical characteristics of value in the artificial feeding of infants and invalids. The bacteriologist determines whether the water supplied the animals is free from injurious germs. The bacteriological examination of the milk itself has shown us that it is possible to have it so drawn that it will keep almost indefinitely under certain conditions without the addition of preservatives. It has also shown that milk containing a large number of bacteria is more to be feared, and is also a more potent cause of intestinal disorders in infants than has generally been supposed. Physiological chemistry has taught us that the heating of the milk above a certain point renders its assimilation more difficult, and also that milk highly impregnated with bacteria even after Pasteurization, contains, not the living bacteria but the ptomaines manufactured by them which are in many instances more dangerous than the bacteria themselves.

Comparative physiological chemistry has shown us that the maternal milk of the lower animals is suited to the peculiar conditions under which the young are reared, and to the anatomical and physiological capabilities of the particular organism studied. What is true of the lower animals is also true in the case of man and in modifying milk for use in infant feeding the peculiar anatomical and physiological requirements should be uppermost in the mind of the physician.

In this matter of milk supply, the Veterinarian has been to the fore and the modern dairy should be under his supervision that the advanced knowledge of scientific experts and medical practitioners may be made use of in producing a more wholesome food for the infants and invalids who are wholly dependent on others for this one article of diet The subject of "milk supply" is a very broad one, modern science having shown us the fallacy of the older ideas as to the regulations which should be enforced in its control. The further discussion of foods will

have to be passed over on account of the time that would be consumed by going into details in a matter of such importance, pointing out the responsibilities of each profession in their supervision and control.

In pathology and bacteriology we see the greatest evidence of the relationship of the two professions. Comparative pathology has within the past few years taken immense strides and it has indicated many facts, with the result that the treatment of common affections met with by the practitioner of Human medicine, has been completely revolutionized by the production of antitoxic serums which are almost specific against the disease for which they are prepared.

In the discovery of the cause of diseases exhibiting a malarial character we find that the parasite of "malaria," in the human, and "surra," in horses were described by Laveran and Griffeth Evans, respectively, in 1880, but it remained for Theobold Smith, one of the greatest living comparative pathologists to demonstrate that "Texas fever," a cattle disease of malarial character was transmitted by an external parasite, the cattle tick (Boöphilus Bovis).

Not only was it shown by him that the disease could be carried from one animal to another by an infected tick, but, that the active virus could be transmitted through the egg to the young nymph which was itself capable of infecting susceptible cattle. Of such practical importance was this discovery that there now exists in the United States an imaginary line north of which Southern, or "tick infested" cattle, are forbidden, during certain portions of the year. This work stimulated other investigators and it has been proven that not only animal diseases exhibiting a malarial character are capable of being transmitted from animal to animal by an intermediary bearer, but also that certain diseases of the human race can be propagated in a similar way. Among the diseases affecting the human being carried in this manner are Bubonic Plague, Yellow Fever, Dengue Fever, the Spotted fever of the Bitter Root Valley of Montana, and many others.

Other special lines could be taken up and it would be found that no great scientific advance had been made without recourse to the lower animals and that practitioners of both professions are taking advantage of facts gained during such experimentation which have been but side issues in a long series of carefully conducted investigations.

In summing up, it is found that no matter to which profession we have allied ourselves we are engaged in that praiseworthy occupation of saving life and should therefore work hand in hand, each taking advantage of discoveries made by the other that our efforts may produce more beneficial and fruitful results in the usefulness and prolongation of life, whether it be of the human race or of the more unfortunate animals which they control.

A CASE OF CARCINOMA OF THE RECTUM: KRASKE'S OPERATION: RECOVERY.

BY

FRANK R. ENGLAND, M.D.

Professor of Surgery, University of Bishop's College; Surgeon to the Western Hospital, Montreal.

A gentleman, aged 37 years, consulted me early in May, 1903, on account of persistent constipation, a discharge from the rectum and general debility.

PERSONAL HISTORY: The patient has led an active life and enjoyed fairly good health until two years ago. He has always been troubled more or less with constipation, which, for the past two years has been obstinate, and at the present time there is never a proper evacuation of the bowels unless produced by purgatives. He has not been sleeping well for several months and has lost considerable weight. The only pains complained of have been occasional cramps which came on when the bowels were about to move. The discharge from the rectum has not been large in amount, but enough to be noticeable and to soil his linen. During the winter he had suffered from what he called "bleeding piles."

FAMILY HISTORY: Father died from carcinoma of the liver, one sister well. [Since these notes were written the sister has been operated upon for carcinoma of the breast.]

PRESENT CONDITION: His appearance is that of a very sick man; pale, sallow and emaciated; pulse small and quickened, slight pyrexia, (T. 101% F.) abdomen prominent, somewhat distended; numerous hard movable nodules or masses varying in size from a walnut to a hen's egg, easily felt on palpation throughout the abdomen; the sigmoid flexure and descending colon distended with hard masses probably fæcal; the liver and spleen not enlarged; heart, lungs and urine negative; no bladder symptoms.

DIGITAL EXAMINATION OF THE RECTUM: Two and a half inches from the anus a mass was felt surrounding the rectum, infiltrating its walls and fixing it in the pevis. This mass was hard and nodular with punched out ulcerated surface very painful to the touch. The calibre of the rectum was narrowed and the examining finger could not be passed above the mass.

A considerable quantity of dark grumous materal mixed with blood and emitting a foul gangrenous odour escaped during the examination.

DIAGNOSIS: Carcinoma of the rectum. The nature and gravity of his malady was fully explained to the patient and he was informed that nothing short of a serious operation offered any chance of recovery.

Having decided upon operation he was admitted into a private ward of

Read before the Montreal Medico-Chirurgical Society, Feb. 19th, 1904.

the Western Hospital on May 19th. After nine days of preparatory treatment devoted to improving his general condition and getting the bowels thoroughly cleaned out, a preliminary colostomy was performed on May 29th. The abdominal contents were explored through the laparotomy incision; no enlarged glands were felt, the rectum was firmly fixed in the hollow of the sacrum, but the pelvic peritoneum seemed smooth.

The descending colon was brought out of the abdomen and held in the usual way upon a glass rod passed through the mesentery, as much slack sigmoid being left as possible. Two days after the operation the colon was opened, establishing an artificial anus, through which the bowels moved regularly, with great relief to the patient. Through the lower end of the artificial anus the rectum was irrigated daily with a solution of boracic acid, with marked benefit both in lessening the amount and odour of the discharge from the rectum, and in reducing the temperature and frequency of the pulse.

On June 24th, assisted by Dr. Geo. Fisk, I did a Kraske's operation for extirpation of the rectum, as modified by Rydygier and Tuttle. Some eight inches of the rectum, including the neoplasm and its surrounding cellular tissue and sacral glands, were removed.

The technique of the operation was briefly as follows: The patient was placed on the left side with hips elevated, the field of operation was cleansed, the rectum irrigated and packed with a strip of gauze. An oblique incision was made from the middle of the sacrum on the right side to the tip of the coccyx, then along the middle line to the posterior margin of the anus. The incision was bold and deep, exposing the cellular tissue posterior to the rectum, which was rapidly separated with the fingers from the sacrum, having first caught a few spouting vessels. The space thus found in the hollow of the sacrum, as well as the incision, was firmly packed with sterilized gauze. A transverse incision was then made at the level of the fourth sacral foramen, the bone sawed through at this level and the bony triangular flap reflected to the left.

The tumour was now isolated, and a strip of gauze passed around the rectum with which to draw it down; the peritoneal cavity was opened and the rectum dissected out by following and dividing its peritoneal folds; the sigmoid was well drawn down, the peritoneal cavity dried and closed off as well as possible by suturing the lateral folds of peritoneum to the bowel; the gut was clamped and divided well above the neoplasm. The entire mass (rectum, neoplasm, sacral glands and surrounding areolar tissue) was now carefully separated from the prostate and bladder and removed from above downwards; the healthy sigmoid was brought down and sutured at the anal site; the cavity of the

sacrum was packed with sterilized gauze, the end of which was brought out through the lower part of the wound. Finally the bone flap was placed in position, the transverse incision and upper half of the oblique were closed by deeply placed silk-worm gut sutures, and the whole dressed with sterilized gauze held in place by a T-bandage.

The patient's condition after the operation was anything but good, pulse small and difficult to count, face pinched, lips bluish white. A pint of saline solution was injected subcutaneously and a full dose of strychnine given. The patient was placed in bed wrapped in blankets and surrunded by hot water bottles. He came out of the anæsthetic quietly, the pulse soon improved and could be counted at the wrist (120 per minute). His convalescence was slow and tedious, for many weeks he complained bitterly of the dressings and was much annoyed by the profuse purulent discharge from the wound. He left the hospital October 22nd, four months after the radical operation, with the wound practically healed. He was able to void his urine, and his bowels moved regularly through the artificial anus; solutions could be passed from the colostomy opening through to the perinæum.

The last report, received a few days ago, states that the patient continues to improve, eats and sleeps well, is able to go about and is gaining in strength and weight.

The treatment of any carcinoma is always a serious matter and must continue to be so until the ætiology of the disease is solved. Before the days of asepsis, some of the most able surgeons considered the operation for extirpation of the rectum for carcinoma as unjustifiable, so high was the mortality. At the present time, with improved methods, statistics would indicate that the operation has an immediate mortality of 20 per cent. with only 14 per cent. of cures, that is to say, 14 per cent. of the cases operated upon survive the operation and live three years or longer

The following table gives the results obtained by different operators:

	Cases.	Cures.	Percentage.
Kocher	35	10	28
Czerny	109	16	14
Kronlin	63	10	16
Bergmann	46	8	17
Madelung and Garre	53	6	11
Kraske	80	11	13
Kuster	95	16	16
Hornegg	93	12	12
Mikulicz	66	6	9
Tuttle	32	7	21.8

Average percentage of cures, 14.8.

The above figures, when considered with recently published vital statistics, showing an alarming increase in the prevalence of carcinoma throughout the world, force upon us the importance of being ever on the alert to recognize this dreadful malady; for until science discovers some preventive or more certain method of dealing with carcinoma than we have at the present time, we can only expect to obtain better results by early diagnosis and prompt, and radical operative measures.

At the Vienna General Hospital, in 156 cancers found at autopsy in the large intestine, 30 were found in the sigmoid flexure and 81 in the rectum. These and other statistics indicate that rather more than 80 per cent. of all cancers found in the intestines are located in the rectum. One may conclude then that malignant disease of the lower bowel is comparatively frequent. The importance of rectal examination as a matter of routine, in obscure abdominal derangements is forcibly demonstrated by this case, which for upwards of two years exhibited a group of indefinite symptoms in no way indicating the serious nature of the malady. I am indebted to Dr. Macphail for the pathological examination. The neoplasm was classed as an adeno-carcinoma.

A CASE OF MYXŒDEMA.

BY

H. A. LAFLEUR, M.D.

Mrs. M., aged 50, married, was admitted to the Montreal General Hospital on September 16th, 1903, supposedly for Bright's disease. She complained of swelling of the body, particularly of the legs, of weakness, soreness of her eyes, and of pain in one thigh, the result of a fall a few days before. She was so lethargic that it was impossible at the time to get a connected history of her illness, but subsequently the following facts were elicited. Some six years ago she noticed that her feet and legs were swelling so that she had some difficulty in putting on her boots, and at the same time her relatives remarked on the unnatural swollen appearance of her face, especially about the eyes. This condition gradually increased and was accompanied by muscular weakness, but she was still able to attend to her household duties. Her skin became rough and dry, and her hair began to fall out. It was noticed also that her complexion was changing—she was becoming quite sallow. There was a change in her voice, which became husky and croaking in character. In the summer of 1903 she fell on several occasions while walking, apparently from weakness of the legs or inability to control her

Living case with photographs shown before the Montreal Medico-Chirurgical Society, 22nd January, 1904.

Myxœdema—before treatment.

Myxœdema—after 3 months treatment with thyroid extract.

movements. She had also suffered from wandering rheumatic pains and stiffness of her joints for some time.

Prior to her present illness she had always been well. She is the mother of 6 healthy children. So far as she knows, no illness similar to hers has occurred in any of her relations.

Her condition at the time of entering the hospital was as follows:—

Large, well-developed woman, weighing 159¾ lbs. The skin has a general sallow tint, with the exception of a small patch over the cheek bones where there is a light reddish flush. The face looks swollen, and there is puffiness of the eyelids, particularly of the lower ones. The features are coarse, and expressionless. The upper eyelids droop, and are raised slowly when she is roused, the eyes are bleary and watery. The skin is very dry and inelastic over the whole surface of the body, but not doughy, and on the hands, forearms and face there are innumerable fine wrinkles, the epidermis being cracked superficially, and the hands and forearms distinctly glossy. There is some fine branny desquamation on the upper extremities and on the forehead near the hair. The lower lobe of the right ear also shows desquamation in fairly large scales. The finger nails look normal, but the toe-nails seem to be stunted. The hair is very dry and thin, and there is marked seborrhœa sicca. The musculature is everywhere shrunken and flabby Though the skin and subcutaneous tissues feel thicker than normal, there is nowhere the slightest pitting on pressure.

The mental condition is peculiar. The patient is apathetic and drowsy, and spends most of her time dozing in bed. When roused by a question she answers very slowly, seeming to have difficulty in collecting her thoughts, and to be disinclined to prolonged conversation. She is, however, quite rational, but her memory seems to be defective. The voice is husky, with a peculiar rough "leathery," and at times metallic tone.

The examination of the viscera gave no evidence of organic disease. There was some transverse enlargement of the area of cardiac dulness; the 1st and 2nd sounds at the apex were of almost the same quality, but there were no murmurs. The temperature was subnormal and remained so as a rule during the first six weeks. The pulse was 84-88, regular, of small volume and medium tension. The thyroid gland could not be felt.

Urine:—1031; acid; no albumen; no glucose; no casts.

From the history and the physical examination the diagnosis of myxœdema was made, and on September 22nd, treatment with thyroid extract was begun, 1 grain of the powdered extract being given three

times daily. This was subsequently increased to 2 grains and then 3 grains, which she continued to take till the time of her discharge on December 30th. Improvement soon showed itself and continued uninterruptedly. The skin became gradually soft and smooth, the capillary circulation improved, the hair became smoother, and as you will notice a fresh crop has grown. The voice gradually became stronger, though it still retains something of its peculiar quality. She has lost weight progressively, from $159\frac{3}{4}$—$135\frac{3}{4}$. The mental condition is quite changed. Though not vivacious, she now answers questions readily and her speech has lost the characteristic slowness. She is continuing the thyroid treatment at home.

ACUTE MASTOIDITIS FROM STREPTOCOCCUS INFECTION—WITH REPORT OF TWO CASES.

BY

G. K. GRIMMER, B.A., M.D., Edin. F.R.C.S., Edin.

Assistant Laryngologist and Rhinologist, Montreal General Hospital.

Politzer claims to have proved by numerous post-mortem examinations "that in every acute middle ear suppuration pus is found in the cells of the mastoid process," but he points out, that pus in these cells does not necessarily imply local abscess formation, and that we cannot speak of the formation of a mastoid abscess unless, owing to microparasitic infection, the lining membrane and osseous tissue of these cells are inflamed.

Numerous micro-organisms have been found in the pus from mastoid abscesses, most frequently the diplococcus pneumoniæ and the streptococcus pyogenes. Divergent views have been expressed by different authors as to the clinical characters of the inflammation resulting from infection with the various bacteria. According to Politzer, Nadoleczny holds that the milder forms of middle ear inflammation are, as a rule, produced by the pneumococcus and the severe forms with mastoditis and other complications by the streptococcus, while Leutert states that the suppuration brought about by the pneumococcus is differentiated from that due to the streptococcus by its rapid course, by its tendency to invade the entire middle ear and result in mastoid and extradural abscesses. Gradenigo believes the streptococcus the exciting cause of severe otitis and that this organism is almost always the cause of sinus thrombosis, yet the same authority thinks the pneumococcus is the prevailing element in extra-dural abscess.

The following two cases of Acute Mastoiditis which have recently

come under my care, present some points of interest and demonstrate the clinical characters that may be met with in mastoid abscesses of streptococcic origin.

Case 1. Mr. V., age 50, diabetic. Had severe pain in right ear for 3 days following snuffing up of salt solution into the nose. The right tympanic membrane was found much congested and bulging, and of a bluish, purple colour. Two or three small subcutaneous hæmorrhages were noticed below, near the periphery of the drum membrane. There was some tenderness at the tip of the corresponding mastoid process. Free paracentesis was done in the posterior inferior quadrant of the drum membrane, and there was immediate free discharge of sero-purulent fluid with relief to the pain in the ear, the discharge continued very profuse and of seropurulent character for about four days, requiring 15 to 20 tampons in 24 hours to absorb it. The temperature, at the time of doing the paracentesis, was 101°, on the 5th day following it was normal and the mastoid tenderness had entirely disappeared, by the end of the second week the discharge was much lessened, but was blennorrhagic in character. After this until a relapse occurred on the 34th day, no acute symptoms were present. Pulsation which had been very distinctly seen at the perforation in the drum and strongly felt by the patient gradually disappeared, and could be neither seen nor felt by the 30th day, when the discharge, also, had almost ceased. Up to this time the patient remained indoors, mostly in his bedroom, and lived on a diabetic diet. An analysis of his urine was made twice a week by his family physician, who reported the absence of glucose on some occasions and at others as much as 2 per cent. From the 30th to the 34th day, patient insisted upon going to his business and taking part in other affairs, against the advice of his medical attendants. On the 35th day the discharge was markedly blennorrhagic and much increased, the temperature rose to 100°, and there was pain and tenderness over the mastoid, the tympanic membrane bulging. The perforation which had not completely closed was enlarged and an ice bag placed over the mastoid. The next day the acute symptoms had disappeared and the temperature was normal. From the 36th day the discharge was constantly profuse and composed of thick stringy yellow pus, the posterior wall of the meatus commenced to bulge causing a gradually increasing narrowing of the external auditory meatus, there was, also, a sensation of weight on the right side of head and intermittent attacks of slight pain and tenderness over the mastoid process, but no redness or swelling or elevation of the temperature. On the 39th day a specimen of 24 hours urine showed 2% of sugar, and the patient on the advice of a medical consultant was placed on von Noorden's diet.

and in a few days all trace of sugar had disappeared from the urine and did not return during the future course of the treatment. On the 44th day the discharge continuing profuse and the external auditory canal being much narrowed, although there was no redness or swelling or standing out of the ear, and only slight tenderness on pressure at the tip and base of the mastoid process the writer decided to lay open the mastoid cells. On doing so it was found that very extensive absorption of bone had taken place and that the mastoid process, excepting the external shell of hard bone, was one large abscess cavity filled with dark red granulations and pus, communicating freely with the antrum and tympanum. At the upper deeper portion of the cavity the dura mater was exposed over an area the size of the thumb nail. A culture was made from the mastoid pus and Dr. McCrae, of the pathological laboratory at the General Hospital, reported the presence of a pure culture of streptococcus.

The ultimate result in this case was most satisfactory, an uneventful recovery taking place. The discharge from the ear discontinued entirely within a week and by the 10th day the tympanic membrane perforation was healed.

In five weeks after the operation the cavity in the mastoid process was completely filled up with new granulations and covered with the epithelium, the only evidence of the operation being a somewhat deeply depressed scar. The hearing of the affected ear, which had been markedly impaired during the course of the acute attack, five weeks after the operation was nearly normal and equal to that of the unaffected ear.

Case II. Miss B., age 30, was sent to me on the 15th January, 1904, and gave the following history : Up to the present illness she had always enjoyed good health. In November, 8 weeks previously, while suffering from a severe cold in the head, the left ear became painful, four days later her suffering in that ear was intense, and she was seen by Dr. Orne Green, of Boston, who punctured the ear drum, giving her almost instant relief. The discharge gradually became less and after a few weeks she was sent to visit friends in Montreal; after coming here however, the ear discharge, instead of continuing to decrease, became very abundant and she consulted me in consquence.

The Condition When First Seen Eight Weeks After Onset. The left ear was full of thick stringy yellow pus, not offensive to smell. After syringing this out a large perforation with pulsation was seen at the lower portion of the tympanic membrane (this pulsation was distinctly felt by the patient). Rather firm pressure over the mastoid process elicited marked tenderness, especially at its apex and over the

lateral sinus, immediately behind the process; there was, also, slight redness over the mastoid region but no perceptible swelling or standing out of the auricle. The external auditory meatus was narrow and there seemed to be some bulging of its posterior superior wall. The temperature was normal. The patient went immediately to hospital, and was given a saline aperient. Owing to the very profuse discharge from the ear it was syringed every 3 hours and an ice bag kept constantly upon the mastoid for 48 hours; after four days treatment the mastoid tenderness was much diminished as was also, the quantity of the discharge. Pulsation at the perforation was still visible, but much less distinctly felt, the external meatus, however, was constantly growing narrower. On the evenings of the 6th and 7th days after coming under my care her temperature was 99.4 and 99.8 respectively. The progress not being considered satisfactory, it was decided to open the mastoid cells on the following day. Just previous to the operation some swelling and induration was noticed in the neck, extending down from the tip of the mastoid process.

Condition Found on Operation : After making the usual incision to expose the mastoid and removing about $\frac{1}{8}$th to 3-16th of an inch of solid compact bone over the mastoid cells, a cavity containing pus and granulation was reached. The pus escaped with considerable force to the amount of about a drachm. A bacteriological examination of the pus showed the streptococcus in pure culture. After removing all the bone overhanging the cavity it was found to be very large and to occupy the whole mastoid process. The lateral sinus, to the size of a five cent. piece, was exposed. A small perforation was found at the tip of the mastoid process through which a grooved director was passed and pressure made upon the neck but no pus was found. The mastoid cavity contained large dark red œdematous granulations; when these had been thoroughly removed the mastoid antrum and cells were seen to form one cavity.

The after history of this case has been highly gratifying. The discharge from the external auditory meatus had completely ceased by the 4th day after operation, and the perforation was closed a few days later. Now, the 17th day, the mastoid wound has remained perfectly healthy and has diminished by half its size and healing is progressing rapidly. The hearing in the affected ear, which at the time of operation was very defective, is rapidly returning.

The fact demonstrated by these cases, to which it is desired to draw the reader's attention especially, is that a mastoid abscess of streptococcus origin may have mild clinical symptoms and be of slow progress, and yet be of a most insidious, destructive and dangerous character.

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CANADIAN MEDICAL ASSOCIATION.

The thirty-seventh annual meeting of the Canadian Medical Association will be held in Vancouver on the 23rd, 24th, 25th and 26th of August. The local committee is already at work, to make the meeting an event worthy of all Canada, and the president, Dr. Tunstall, has made a journey through the Eastern cities, consulting and advising and forming plans. The meeting in London last year did not receive a large attendance of members from beyond the borders of Ontario; from Montreal there were only four persons, and the Maritime Provinces made an equally poor showing.

The men in the west are approaching the thing with a fresh mind. They have arranged a low transportation rate; they have interested the whole profession and are keeping in touch with it through small local committees in every centre. The programme is being made up, and some guarantee taken that papers on the list will actually be presented. Out of forty-six papers set down for the London meeting

only twenty-nine were actually read, and the same thing happened at the meeting of the Maritime Association in St. John, in July. It is easy to make an attractive programme, if there is no intention of having it carried out.

But after all preliminary arrangements have been made, the success of the meeting depends largely upon its management, and the committee in Vancouver are profiting by past experience. There should be a distinct line drawn between the actual business of the meeting and the entertainments; the papers should be read at the hour appointed, and the speakers strictly limited in respect of time and subject. Instead of the full reading of a paper, the main facts might be briefly presented; or even a printed abstract prepared in advance. The registration of those in attendance should be done with system, and the names, with addresses, posted in a public place. A large part of the business of the meeting is done outside of the sections, and accommodation should be provided for the less serious minded; a surreptitious cigarette at the end of a passage is not all that every man desires.

The committee should guard against those members, who put in an appearance the last day of the meeting, caring only to receive railway certificates; and lastly, something should be done to prevent the unseemly scramble for papers by editors of journals, intent only upon filling their pages somehow during the lean summer months. The profession in British Columbia may rest assured of a hearty support throughout Canada. If the British Association meets in Halifax in 1905, that will probably decide the place of the Canadian Association for that year, and it is not too early to suggest Quebec as the meeting place for the year following.

THE TUBERCULOSIS EXPOSITION AT BALTIMORE.

Quite one of the most successful in all its details of local exhibitions and of local medical congresses, was the Tuberculosis Exposition held in Baltimore. It was a model of what such should be. Not too much was attempted; the arrangements grew and developed naturally, and the result was a demonstration of what can be and has been accomplished in interesting the public in a matter of vital importance. It was purely a scientific exhibition and congress free from any aspects of commercialism. The State Commission on Tuberculosis had gathered together a valuable series of statistics upon the prevalence of tuberculosis among the various divisions of the population of the State of Maryland, and wished to draw some little attention to their results. To this end the active head of the commission, Dr. Fulton, had tabulated and charted the results in a series of large diagrams, which

presented the facts in such a form that they could be easily grasped by the meanest understanding. They were, in fact, so excellent that it was felt that it would be wise to afford some additional attractions to induce the public to visit and study them. The large halls of the Johns Hopkins University were offered for the purpose and gradually the form of the exposition took shape. The district nurses were invited to instal a model sick-room for tuberculous patients; tents, chairs, lounges, and other conveniences for the open air treatment of the disease were gathered together; the better known sanatoria were invited to send photographs and plans of their buildings, and charts exhibiting the results obtained by treatment. A valuable collection of the more important works bearing upon the subject, from Hippocrates onward, was brought together and annotated by, we believe, Dr. Osler. A small museum was formed as an annex showing the various manifestations of the disease in man and the lower animals: this not for the general public, but for the visiting members of the profession. And, lastly, a series of evening lectures was arranged by various speakers, of whom Dr. Adami was one, from outside the State.

Developed thus, the exposition was a very remarkable success. Throughout the day, and in increasing numbers as the week proceeded crowds of the general public visited the exposition. They were of all classes of the community; there was a large attendance of medical men from all parts of the State, and each evening thronged audiences attended the lectures. Apart from the wise way in which the whole scheme had been developed and had been brought to public notice, the exposition afforded a most satisfactory demonstration of the fact that the public in general is now thoroughly interested in the subject, and of the fact that the public is now awake and prepared to join heartily with the profession in preventing the spread of the disease.

THE UNIVERSITY LECTURE.

Professor Macnaughton, who delivered the University lecture on February 11th, brought to the undertaking a fresh mind and a high point of view. The lecture was a strong plea for the retention in educational systems of some tincture of letters. Such voices, in time, are bound to be heard, even if for the present they do seem to be lifted up in the scientific wilderness. It was not a plea that the university body should array itself in the cast-off garments of mediæval learning—professors of classics are too fond of recommending that form of folly. The burden of the message was that the future belongs to the people who will take the trouble to think. The Germans are not behindhand in scientific and industrial activity, and yet they give more thought to

literary study than any other nation; the Greeks, who gave birth to science in the island of Kos made their education wholly literary.

It is only in the intellectual atmosphere generated by the wide diffusion of great literature, that Science thrives, and the short-sighted utilitarianism, which despises the one, is in the end fatal to the other. Under all diversity of manifestations the spirit of man is one; to interfere with any one of its main expressions is to lower the general vitality and stunt all other activities as well. In the interest of science itself, literature must not be neglected. There is much of which science does not take account. Besides La Place with his mechanism of the heavens, said the lecturer, we need the nineteenth psalm. The beauty and mystery of things, the appeal they make, needs the interpretation and recreation of the poet, and human life needs the sympathetic and penetrating presentment which only the great literary artist can give. These and many other high thoughts found expression in this year's university lecture. Every one will agree with Professor Macnaughton's conclusion, that no holder of a degree should be allowed to leave the university without some fairly adequate conception of what good literature is, and some capacity to enjoy it.

ATHLETICS AND THE STUDENTS.

The debate between the members of the McGill Medical Society upon the influence of athletics on the physical and mental development of the student ended as most discussions do when the opponents find they are talking about different things. The undergraduates arrived at the conclusion that the influence is not adverse. This decision was entirely proper, if by athletics is meant measured movements to the sound of a piano or the instructor's voice, or the other feats of strength and daring habitually carried on in a well ordered gymnasium. But if athletics be made responsible for the evils which accompany or flow from university sports, the excess of zeal in contests, the unreasoning desire for victory at all hazards, and the mental unrest arising from hope or fear as to the outcome of a wager, then it might be well to arrange a fresh debate in which these elements should come in for consideration. Without wishing to supply arguments in advance to either side, it might be suggested that some speaker could find material for forceful utterance in the postponement of the University Lecture, on account of the exigencies created by a hockey match. That incident might be made to show that the educational system is sufficiently tinctured with a love of sport, and to prove that the plea for a tincture of lectures was not inopportune.

MEDICO-CHIRURGICAL SOCIETY.

The three case reports presented at the last meeting of the Medical Society were models of what case reports should be: nothing essential was omitted, and nothing foreign to the subject was included. Dr. Ross's modest relation of a case of pregnancy with complications led up to the reading of a report by Dr. Goodall, which, in completeness and in style of presentation, was entirely creditable to himself, and to the hospital with which he is connected. This in turn opened up a discussion in which the whole question of eclampsia was handled. The diversity of views expressed gave force to Dr. Chipman's plea for a more faithful clinical study of all the elements in this strange disorder.

Dr. Keenan's report of a case of sarcoma of the tongue revealed incidentally a brilliancy of diagnosis, arising as all brilliant diagnosis does, from a profound study of every element in the case under consideration. This report too led to an informing discussion upon the relation existing between lymphoid and sarcomatous tissue, a relation which is by no means clear.

The salient feature in Dr England's communication of a report upon an incision of the rectum by Knaske's method was that the patient is still alive, nearly a year after the operation. The importance of that fact in surgical procedures should not be lost sight of.

FRENCH AND ENGLISH.

Now that the French and English portions of this community have come so close together in educational harmony, it would be well to make the best face possible against that part of the world which lies outside of the Province of Quebec. The College of Physicians and Surgeons have issued, in French and English, a report of the proceedings of that very harmonious meeting held on the 30th September last, to which we have so often referred with pleasure. Against the report itself there is nothing to be alleged, and the French edition contains the grace of style, the vivacity and that note of intimacy peculiar to the language in which it is written. In the English version these qualities are not so apparent, and a correspondent, whose letter bears an Ontario post-mark, pretends to find it amusing. He instances the censure passed upon the Secretary, "who showed very little zeal in ackrowledging, at least, the merit of those who worked with the greatest impartiality at the revisal of the rules," and the case of the midwife, who was refused "for want of sufficient scientific qualifications," and yet again the case of the applicant, who demanded a license "without presenting any documents, "as he left them at his residence." This correspondent also affects to find something tragic

in the series of events, which overtook Henri Desmarais, and are made a plea for "regulating his position, so that the examinations which he is convinced, he will undergo with success, will be equally passed under the control of your Assessors, this will permit him to receive the required license without further delay." The pleading continues: "that, he intends to go to Europe, to continue his studies; this, he will do with more courage were he free from the thought that he will then be obliged to reside in the United States, far from home, cruel necessity to which he was resigned to submit, when he entered the University, under the circumstances before mentioned, and, when the delay of one year might have been of an inestimable value if the fears entertained on his father's health had been unfortunately realized."

The answer to all this cavilling is, that if the Council of Ontario were to publish their proceedings in French, we in Quebec would in turn find something which would minister to our amusement.

The recent epidemic of typhoid fever has drawn public atttention even more than usual to the water supply. During ordinary winters, we are apt to find that the water in the morning tub becomes clearer and less tan-coloured. This is due, not to any admixture with the St. Lawrence water proper, but to the fact that the small streams draining the boggy and moorland areas along the Ottawa Valley, become frozen up, and so the main bulk of the water coming down the Ottawa at this period is derived from springs. This year, during the last few weeks, everyone must have noticed that yet further change has occurred. The water has not merely been beautifully clear but it has taken on an exquisite pure, faint bluish colour when seen in any depth so that the mere contemplation of the bath has been a source of æsthetic pleasure.

What has happened is very remarkable. According to M. Janin, the Civic Engineer, who has been investigating the cause of the phenomenon, it is the following :—Below the Cascade Rapids the frazil ice carried down has heaped up and become converted into a huge barrier of solid ice. From soundings made by him in the immediate neighbourhood of the barrier, it is found there has been formed a wall of this solid ice, not less than 67 feet high, and so strong as to completely divert the current of the St. Lawrence, which now, instead of proceeding downwards, is turned at a northerly angle so that the main stream makes it way over the locks and along the course of the Soulanges canal and then, crossing the bed of the Ottawa, this current strikes the head of the Island of Montreal, so that now, for the first time in the memory of man, the waters of the St. Lawrence pass, not merely along the southern shore of the island, but also flow down the

Back River and we in Montreal are drinking and disporting ourselves in pure St. Lawrence water.

An effort is being made in several quarters to draw the Medical Society into a discussion of the medical inspection of public schools. Inspection to be of any value must be thorough, and even then it is valuable chiefly against such diseases as scabies, trachoma, tinea and scrofula, conditions from which this community happily is fairly free. It will not do to quote the experience of larger centres, where the population is continually shifting, and school children are deprived of medical supervision in their homes. In Montreal, the humblest families have medical aid within their reach, and until some great need for public inspection of the schools is fully demonstrated, it would seem to be the part of wisdom to encourage parents and teachers to make use of the facilities ready at their hand.

The standard for entrance into the medical profession is steadily rising. Queen's University has decided to make the matriculation the same as in Arts, with the exception of modern languages. The new regulations will require English, ancient British and Canadian history, physics, Latin, mathematics and chemistry, each covering more ground than at present. Ten per cent. of Queen's medical students are usually arts graduates, and seventy-five per cent. more generally pass the arts matriculation before beginning the study of medicine. It is only the other fifteen per cent. who would find the new regulations more stringent, and it will do them no harm to comply with them.

The reponse, which the Provincial Board of Health received to its circular letter drawing the attention of the profession to its obligation in reporting cases of typhoid fever, has not been as free as the necessities of the case and the law demand. Only sixty-two French physicians complied with the request, and a fewer number amongst the English. The board has always proceeded by way of persuasion, but they have in reserve very full powers for dealing with epidemic diseases, in case it should be necessary to resort to the stringent measures of the law.

There is good ground for Dr. Burgess's plea at the annual meeting of the Hospital for Insane, that the law be modified, so as to permit of voluntary retreat into an asylum. The plan is in operation in many places with only the best results. There are cases which can be benefited in no other way; but under the present law, a physician hesitates to strain the regulations so as to admit them. The stringent

rules governing the admission to asylums is a legacy from times past when many abuses were imagined to prevail within their walls. The doors of a modern asylum should not be closed against anyone, who might be benefited by a temporary residence within.

All interested in medicine must regret to hear that the great fire of Baltimore has seriously crippled the resources of the Johns Hopkins Hospital and Medical School. It was with relief that we heard that the hospital buildings were well outside the fire zone; but the income is in part derived from house property, and, no less than sixteen houses and stores belonging to this governing body have been completely destroyed, so that a direct loss of $400,000, or $20,000 a year has to be faced—a sum which must greatly threaten the efficiency of their work in the future.

The Memorial Hospital for Children, of which Dr. A. Mackenzie Forbes is Secretary is now open for the reception of patients, both public and private. An obvious advantage of this hospital is that it will receive chronic cases from the general hospitals, and leave those institutions free to give more attention to cases requiring instant relief.

The International Medical Magazine, edited by Dr. Boardman Reed, and the Archives of Pediatrics, both published by E. B. Treat & Co., will be merged into one journal.

Reviews and Notices of Books.

TRYPANOSOMA AND TRYPANOSIAMIASIS WITH SPECIAL REFERENCE TO SURRA IN THE PHILIPPINE ISLANDS. By W. E. MUSGRAVE, M.D., and MOSES GLEGG, Manila; Bureau of Government Laboratories, 1903.

We have here before us another of those valuable reports, in part compilations, in part the record of original studies by Govenment officials to which, of late years, the various departments of the American Government called upon to deal with medical problems, have accustomed us. In this volume of 250 pages we are given the history of the development of our knowledge of Trypanosomes, of the distribution of diseases in various animals due to trypanosomes: the life cycle of these hæmatozoa; the classification of the different forms found in birds, oysters, fish, rats, horses, and cattle: the discussion of the various modes of transmission and infection which have been suggested or studied by various authorities; a chapter upon symptomatology; an-

other upon general pathological anatomy; yet another upon the disease as seen in various animals; with further discussions upon the course, complications and differential diagnosis of Surra, Nagana, Dourine, Mal de Caderas; chapters upon serum therapy and treatment; the whole ending up with a bibliography of over two hundred names. Altogether the work is a most valuable one for reference, but to review it adequately, interesting as it is, and interesting more particularly to us in Montreal seeing that three of our men, Dr. Todd, in the Congo State; Dr. Wolferstan Thomas in Liverpool, and Dr. Paul G. Woolley in Manila, are actively at work studying the subject, would demand an article much longer than is fitting in this section of the Journal.

Apart from the value of the work as affording a very faithful record of the successive stages of the development of our knowledge of the subject, the most important result is to be found in the conclusion that is reached by the authors, namely, that Surra, the horse disease of India; Nagana or Tsetse-fly disease, affecting horses and other animals in South Africa; mal de caderas of South Africa and probably dourine or maladie du coit, affecting the horses of Southern Europe, etc., are one and the same disease and that all are caused by the Tr. evansii, the form Dr. Evans first described in 1880 as causing surra. These views are divergent from those of several other observers, nor does it seem to us that the authors have wholly made out their point. Yet they have brought forward much which further observers must consider and test very carefully. Incidentally the authors carry back the first observation upon forms which were probably Trypanosomes to Valentin in 1841; while, calling to mind the rather bitter contest there was a few months ago between the members of the London and Liverpool Schools of Tropical Medicine regarding priority in the discovery of Trypanosomes in human beings, they show that, already in '98 Nepveu published observations made by him in 1890 in Algiers, that observer having, in a study of 200 patients, mostly malarial, found various forms of Trypanosoma in six. Nepveu did not note any symptoms characteristic of this special parasitic invasion. Probably as a consequence of this, his work was, for a time, overlooked. We should add that Dutton in his article contributed to the Thompson Yates Laboratory Reports (Vol. 4, Pt. 2, 1902), did not overlook Nepveu's work, though he inferred that from absence of clear description and illustrations and failure to observe concomitant symptoms his observations were of minor value. It is to Forde, Dutton and Manson that we owe the recognition that these hæmatozoa induce very characteristic symptoms in man, and already quite a num-

ber of cases are on record of human Trypanosomiasis, while lately Castellani, confirmed by Bruce, has shown that the remarkable West African condition of sleeping sickness is due to the presence of a peculiar Trypanosome in the cerebro-spinal fluid of the patients and, more recently, Leishman has brought forward evidence to show that the "Dum Dum" fever of India is another manifestation of Trypanosomiasis.

J. G. A.

First Report of the Commission to Senegambia, 1902; Trypanosomiasis. By J. Everett Dutton, M.D., Vict., and John L. Todd, M.D., McGill; Longmans, Green & Co., 1903.

The above report of some sixty quarto pages gives the result of the work of Drs. Dutton and Todd upon Trypanosomiasis in Senegambia in 1902 and 1903. A second report is promised. This gives the distribution, clinical symptoms and morphology of trypanosomes in man and horses. Other species were found in rats, mice, birds, snakes, tortoises and frogs, but time forbade the study. It may be remembered that in 1901 Dr. Dutton saw Trypanosomes in the blood of a European suffering from an illness characterized by a peculiar combination of symptoms and that a very pretty little contest has been waged between the representatives of the London and the Liverpool Schools of Tropical Medicine regarding priority in the discovery of this new tropical disease. As more than one case was thus discovered, the Committee of the Liverpool School of Tropical Medicine sent this expedition to Senegambia to make further investigations. Briefly, out of 1043 natives examined in various parts of Gambia, six cases were discovered. The authors admit that their routine method was imperfect, that the short time at their disposal and the exigencies of travel prevented the full leisurely study which should have been given to each case. There was no evidence to show that natives living in any particular type of locality were specially subject nor did the disease occur in well marked zones or belts. Some of the natives appeared to be perfectly healthy, others, however, showed symptoms resembling those described by other workers.

Out of thirty-six horses examined, ten were found to be infected. In these horses the organism differed clearly from the human organism. We may here note that Dr. Wolferstan Thomas, is at the present time engaged in studying these different forms of Trypanosomes and their effect upon different species of animals, and that Dr. Dutton and Dr. Todd are already back again upon the west coast of Africa making further studies.

The Elements of Kellgren's Manual of Treatment. By Edgar F. Cyriax, M.D. (Edin.); John Bale, Sons & Danielson, Ltd., London.

This work is the most important exposition of the treatment of disease by manipulation and movement that has appeared in recent years. Comparison with the Hand-book of Medical and Orthopœdic Gymnastics, by Anders Wide, naturally comes to the mind, and the chief differences we note is the stress laid by Kellgren on nerve frictions for irritative conditions of the internal organs. For example the writer says, "I have never failed to find tenderness between the scapulæ in acute or chronic bronchitis or phthisis." He claims to have produced eructations by frictions of the 6th, 7th and 8th left intercostal nerves, and catching of the breath by frictions of the 1st and 2nd lumbar nerves, through their influences on the diaphragm.

The author quotes case reports in which the treatment is used for acute infectious fevers, a subject scarcely touched upon by Wide. He places no restriction on diet beyond the patient's own inclinations, nor does he enforce rest in bed in cases of typhoid and scarlet fever, measles or diphtheria, except during delirium, and he introduces manipulations designed to control cerebral excitability, to quiet the circulation and to stimulate the excretions. The case reports of this class of disease are more interesting than convincing, but many of his results in manipulation of the nerves are so astonishing in their extent and promptness as to demand most careful consideration.

In his methods of applying massage, certain differences from the generally accepted methods are noticeable. No ointments are used, the sittings are shorter in duration, and the manipulations are carried on through intervening clothing, preferably linen. Among his most cogent reasons for condemning the use of mechanical appliances in this work is the fact that "they cannot encourage the patient by admonishing him to do his best." This, after all, is what has kept and will keep the systematic manipulative treatment of disease in a comparatively small field. Years of practice combined with a natural talent, are required for its thorough mastery so that it must always remain a gift of the few rather than an accomplishment of the many.

Social Diseases and Marriage. By Prince A. Morrow, M.D. Lea Brothers & Co., New York, 1904; Morang & Co., Toronto.

Whatever medical writers may say, this is an unclean subject; yet Dr. Morrow handles it in a clean and careful way. It is of as much importance to society as tuberculosis, and yet, because it dwells on the

borderland between science and immorality, it has been largely left to itself, save by writers, who had a great deal better have left it alone entirely.

Twenty per cent. of blindness is caused by infection with gonococci and there are in the United States more than fifty thousand persons totally blind. Osler says there are more families with a syphilitic than with a tubercular taint; it is variously estimated that between five and eighteen per cent. of all persons are infected. It is responsible for 42 per cent. of all miscarriages, and of children who are born of syphilitic parents 68 per cent. die in infancy. In the United States, one marriage out of eleven is sterile from all causes, and one out of twenty-three is sterile from antecedent gonorrhœa. This takes no account of the metrites due to the disease nor of the social and domestic misery it entails. All this shameful record is set forth in the book, and all of its aspects considered in relation to society, to marriage and divorce, to population and to the profession. Nor is the prophylaxis left untreated. Dr. Morrow discusses all the attempts that have been made to deal with the evil and he dismisses them as futile. He has no ready made system to set up in their place, but he protests that sanitary science should not make an unconditional surrender to diseases which are essentially evitable. Amongst the remedies he proposes are a reform in morals, but of that he is not over sanguine in such a world as this and with such people as inhabit it. He urges that venereal diseases should be put under the same control as other infectious diseases, that a knowledge of their dangers should be disseminated: yet it is not the most ignorant who are most contaminated. The subject is painful, and if Dr. Morrow does little to add to our comfort, he has done much in setting forth the case with the weight of his authority, and we may add with fine feeling and good taste.

The American Text-Book of Obstetrics, for Practitioners and Students. By James C. Cameron, M.D., Edward P. Davis, M.D., Robert L. Dickinson, M.D., Henry J. Garrigues, M.D., Barton Cooke Hirst, M.D., Charles Pirett, M.D., Howard A. Kelly, M.D., Richard C. Norris, M.D., Chauncey D. Palmer, M.D., George A. Piersol, M.D., Edward Reynolds, M.D., Henry Schwarz, M.D., J. Clarence Webster, M.D., Richard C. Norris, M.D., Editor Robert L. Dickinson, M.D., Art Edition with nearly 900 illustrations. Second edition, revised. Published by W. B. Saunders & Company, Philadelphia and London, 1903. J. A. Carveth & Co., Toronto.

No better indication of the high quality of this work can be given than the list of authors on the title-page; men already made familiar

to us by their scientific writings; men eminent for attainments in their own several departments; men of experience in the teaching as well as the practice of the obstetric art.

The editors are to be much congratulated on the general excellence of the book; the arrangement of the subject matter is commendable; the illustrations throughout are models of artistic workmanship; they are of the utmost practical value, and in fact leave nothing to be desired. There is on the whole an admirable balance between the different sections which is most difficult of attainment in a composite work of this sort. The scientific student will find that his requirements have not been overlooked; he is offered the anatomy and physiology of the generative organs down to the minutest point; the physiology of pregnancy and the development of embryo and fœtus are given in detail, and the pathology of all abnormal conditions fully considered.

In regard to the art of obstetrics the recent graduate or the busy general practitioner may turn with delight to section III., where he will find "help in the hour of need"; instructions so clear, so concise, so practical, so thorough that "he who runs may read."

Some of the points on which special emphasis is laid, are : the value of pelvimetry and external palpation; the necessity for absolute obstetrical cleanliness; the indications for and technique of catheterization and its attendant dangers. The bug-bear of the student, the mechanism of labour is handled so simply and lucidly, that this subject is rendered comprehensible and interesting if not actually enjoyable. The article on Purperal Infection is the least satisfactory in the book.

A Practical Manual of Insanity for the Medical Student and Practitioner. By Daniel R. Brower, A.M., M.D., LL.D., and Henry M. Bannister, A.M., M.D. W. B. Saunders & Co., Philadelphia; J. A. Carveth & Co., Toronto.

No better manual on mental disorders has been placed in recent years in the hands of those for whom this work is designed. In the initial sections of the book the authors deal with insanity in general, its prevalence, causation, diagnosis, symptoms and treatment. Later, the varieties of mental diseases liable to be met with in practice are fully described, including not a few that seldom enter hospital wards, borderland cases and the like, which, nevertheless, give the family physician much anxiety.

The volume abounds in practical hints, most useful when an attempt at treatment outside of an asylum is to be made. In the main the style of the text is simple and uninvolved, which cannot be said of

all alienistic works of American authorship. The chapter on classification, while in a sense, perhaps, the least conclusive, is of special interest as it details the schemes of the leading modern teachers on insanity, and gives a comparative table thereof. The authors themselves follow closely the classification of Kræpelin, than which none has greater merit to-day. The concluding chapters are devoted to the examination of patients, etc., and are of much service to the general practitioner, who has to send his case from home for treatment or confinement.

J. V. A.

Diseases of the Eye. By Dr. G. E. De Schweinitz, A.M., M.D., with 280 illustrations and six plates, 4th edition; W. B. Saunders & Co., Philadelphia; J. A. Carveth & Co., Toronto.

A fourth edition of this well known text-book has been published, and the new matter which it contains brings the work well up to date; the chromo lithographs and additional engravings are clear and well executed. The articles on vascular change as evidenced by the retinal vessels, and on Optic Neuritis, illustrated as they are by excellent plates, should prove very useful to the general practitioner. The obscurity of classification which usually obtains in the discussion of optic neuritis is perpetuated to a great extent in the latter article; but until the period of inception of definite inflammatory changes, in cases of choked disc which are primarily œdematous and in cases of retrobulbar neurites, which are due to toxic action upon the nerve fibres, can be demonstrated, the wisdom of any radical change may be doubted. As so many exaggerated results from the use of new remedies are reported, it is pleasing to note the conservative attitude of the author regarding many recent and highly lauded therapeutic agents. The general arrangement of the work is too well known to require comment; containing as it does, great wealth of detail concisely stated and easily accessible.

Portfolio of Dermochromes. By Professor Jacobi, of Freiburg im Breslau. English adaption of text by J. J. Pringle, M.B., F.R.C.P., Physician to the Department of Diseases of the Skin at the Middlesex Hospital, London. Rebman, Ltd., London; Rebman Co., New York; Charles E. Wingate, Toronto, 1903.

Part three of this atlas of skin diseases contains thirty plates, all in colours, of cutaneous affections; and part four, fourteen plates of venereal affections, comprising in the main cutaneous syphilis.

The illustrations in this work are taken mainly from models in the Breslau Clinic and the Baretta collection in the Saint Louis Hospital in

Paris, and when it is said that the process used (citochromy), is more perfect than any hitherto employed in the reproduction of colours, the great value of the work can be appreciated. It in reality brings the magnificent collections of these two clinics within reach of every practitioner of medicine. In one particular, too, this work will be found of more than ordinary value, namely, in that the commoner rather than the rarer dermatoses are depicted in it. Parts I. and II. of this admirable publication received mention in a previous number of this Journal. Vol. XXXII., p. 680.

The Self-Cure of Consumption Without Medicine. By Chas. H. Stanley Davis, M.D. E. B. Treat & Company, New York, 1904; 75 cents.

The words "without medicine" are unnecessary, as the cure of consumption, self or otherwise, depends upon other measures entirely. Those measures are fully described in this little book—open air exercise, proper breathing, diet, climate, sanitaria, etc. The attitude of the consumptive towards his malady has entirely changed in recent years, and this book will serve to inspire him still further with confidence and hope of an eventual cure. It expresses the most recent and soundest views upon the subject.

"The Blues." By Albert Abrams, A.M., M.D. New York: E. B. Treat & Company, New York, $1.50.

The blues is now splanchnic neurasthenia, if there be any comfort in that; at least that is the thesis which Dr. Abrams endeavours to establish in his book. Best of all, he thinks, there is no variety of neurasthenia, which is more amenable to treatment, and that is in itself gratifying intelligence. The cause of the disorder he affirms is congestion of the intra-abdominal veins, and he tells in plain words how it may be cured. The treatment is directed towards emptying those veins by specially designed exercises and other methods; and certainly, as Johnson said of a bolus for rheumatism, composed of sulphur, mustard and treacle, "it has the appearance of efficiency."

The Practical Medicine Series of Year Books. Edited by Gustavus P. Head, M.D., Vol. III.; the Eye, Ear, Nose and Throat; The Year Book Publishers, Chicago.

The present volume is one of a series of ten issues at monthly intervals, and covering the field of medicine and surgery; each volume complete for the year prior to its publication and on the subject of which it treats, the price of each volume $1.50, of the series of ten volumes $5.50. The eye is dealt with by Casey Wood, an old friend of the pro-

fession in Montreal. He has gleaned the field well, and has included Stirling's case of cataract following electric shock; another reference to this Journal however cannot be verified. We have often said that this series is interesting and reliable, handy, and cheap in price.

Transactions of the American Surgical Association. Vol. XXI. Edited by Richard H. Harte, 1903.

In this volume are to be found Geo. E. Armstrong's report of cases of single ulcer of the urinary bladder, non-tuberculous and non-malignant in origin, and F. J. Shepherd's case report upon aneurysm of the external iliac artery, treated by digital compression. In addition there are thirty-eight articles of great importance, covering nearly all the surgical conditions that may arise, with nine important illustrations. The volume is entirely creditable to American Surgery.

Essentials of Histology. By Louis Leroy, B.S., M.D. W. B. Saunders & Co., Philadelphia; J. A. Carveth & Co., Toronto.

This volume of 250 pages is the twenty-fifth in Saunders' series of question-compends, of which over two hundred thousand copies have already been sold. The author disclaims the intention of making an exhaustive text-book, yet his work contains all that it is essential for a student to know of histology. There are ninety-nine illustrations, most of which are original, and each chapter concludes with a series of questions, which will be useful for purposes of self-examination. The whole field is well covered, and the descriptions are succint, clear and accurate. The same publishers issue a companion volume upon the eye by Edward Jackson, M.D., which, in the main, also possesses the qualities above mentioned.

Transactions of the American Dermatological Association, Washington, May, 1903.

This volume contains 18 papers; amongst them is Dr. Shepherd's note on a rapid method of diagnosing leprosy. The method is to remove a portion of the ulnar nerve and submit it to bacteriological examination. All the papers are of great value to persons interested in diseases of the skin.

Aids to Surgery. By Joseph Cunning; London : Baillière, Tindall & Cox; Toronto : J. A. Carveth & Co., 1904.

This is a condensation of the main facts in surgery in such a way as to make their impression upon the memory easy. It has a field of usefulness for hasty preparation for examination, and as such is sure to find favor with students.

Medical News.

McGILL MEDICAL SOCIETY.

The 25th anniversary of the McGill Medical Society was marked by a debate in the Royal Victoria College on the 3rd of February, the subject being: that athletics interfere with the best physical and mental development of the student. The decision was in the negative. In the absence of Principal Peterson through illness, the chair was occupied by Dr. W. F. Hamilton, honorary president of the society. Mr. V. L. Miller, B.A., '04, president of the society, told of its history for the past twenty-five years, since its establishment with Dr. Osler, as president, and Dr. Shepherd, as vice-president. Others who spoke were Dr. Hamilton, Dr. Wesley Mills, Dr. Shepherd, and Dr. C. F. Martin. The judges of the debate were Drs. C. F. Martin, R. Tait McKenzie and D. D. McTaggart.

MONTREAL GENERAL HOSPITAL.

During the month of January 246 patients were admitted to the wards and 225 patients were discharged. The average number of patients in the hospital was 190; the greatest number at one time 199; there were 21 deaths. The ambulance responded to 136 calls, and the number of consultations held in the Out-Door Department was 2,432.

The eighty-second annual meeting of the Montreal General Hospital was held on the 16th February, 1904. The report of the secretary showed that there were 3,066 indoor patients treated during 1903, an increase of 188 over 1902; of these 184 remained over from the previous year, 3,671 being admitted during the year; 188 remained in the hospital at the end of the year. There were discharged from the hospital 2,828, and there died in hospital 238, of whom 84 died within three days of admission. The mortality was 7.7 per cent., or, excluding patients dying within three days of admission, 5 per cent. The average number of patients in the wards was 184.7. The average number of days in hospital per patient was 22, and the aggregate number of days in hospital by all patients 67,438, an increase of 1,843 as compared with the year ending December, 1903.

In the Outdoor Department there were 35,984 cases treated during 1903: Medical, 10,544; surgical, 12,852; eye and ear, 5,120; gynæcological 1,172; nose and throat, 2,829; dermatological, 1,440; dental, 107; emergency cases 1,920.

The ambulance made 1,400 trips during the year. Two hundred and seventy-nine autopises were performed, and 1,176 examinations made by the attending staff of the hospital.

In the X-ray department, 646 skiagrams were taken, 109 fluroscopic examinations, and 217 exposures for therapeutic purposes.

The average cost per patient was $1.56, as against $1.50 of the previous year. The excess of expenditure in 1903, over ordinary income was $13,453, against an excess of expenditure last year of $10,774.

NOTRE DAME HOSPITAL.

During the month of January, 1,262 patients were treated in the Out-Door Department; the ambulance responded to 111 calls, of which 45 were private calls; 171 indoor patients were admitted and 160 were discharged cured or improved. During January, eight cases of typhoid fever were taken in. Five patients suffering from typhoid died during January, three of which had been admitted during the same month and two in December.

Dr. Marmoreck's anti-tubercular serum was given a trial in the hospital. Two cases, one surgical and one medical, were experimented upon; results in the first case were nil—neither good nor bad effects were noticed. In the other cases the results were bad. The patient received nine injections; the temperature remained the same, but the pulse rate increased; the sputa were weighed every day during the period of injections and showed a daily increase up to two ounces more on the ninth day than on the first day of the injections. Patient weighed 118 lbs. at the beginning of treatment; after the ninth injection a loss of 3 lbs. was found; cough increased and was more harassing. The treatment was then discontinued at the patient's request.

PROTESTANT HOSPITAL FOR THE INSANE.

The annual meeting of the directors of the Protestant Hospital for the Insane was held on the 3rd of February. According to the Medical Superintendent's report, the admissions for the year numbered 152 and the number who had received treatment 581. Fifty-seven patients were discharged as cured, and 23 as improved. There were 44 deaths and the percentage of discharge was 58.55. The recovery rate was 37.5. The gross receipts for the year were $96,695, and the expenditure $101,437, leaving a deficit of $4,742.

JEFFREY HALE HOSPITAL, QUEBEC.

The following is from the annual report for year ending 31st December, 1903: In the private and public wards there were treated during the year 147 surgical, 221 medical and 135 opthalmic cases; total 503; out-door patients 1,800.

The treasurer's statement shows an income for the year of $17,356, while the expenditure amounted to $15,056, showing a balance of $2,300.

British Columbia is taking measures preliminary to establishing a sanitarium for the care and treatment of patients suffering from tuberculosis. A convention has been held in Victoria and a basis of agreement reached. It was recommended that Kamloops be selected as the most suitable place.

The Montreal League for the Prevention of Tuberculosis is making an appeal for funds to carry on their work. The intention is to establish consulting rooms, from which cases can be supervised, and ultimately to erect a sanitarium, for which the Provincial Government has granted a site at Trembling Mountain.

Dr. C. A. Hodgetts has been appointed secretary of the Provincial Board of Health and Deputy Registrar-General for Ontario to fill the vacancy caused by the resignation of Dr. P. H. Bryce, who has accepted the position of Medical Inspector of Immigration and of the Department of Indian Affairs for the Dominion Government.

A general hospital is in course of erection at Moosejaw to cost $20,000. It is intended to serve the district of Central Assiniboia, and those territories, which are served by the railway ending at Moosejaw.

Dr. T. J. Norman, of Toronto, has been appointed Assistant Superintendent of the Asylum for Feeble-minded at Orillia, in succession to Dr. Moher, who has been promoted to the medical superintendentship of Brockville Asylum.

The report of the library committee for 1903 of the McGill Faculty of Medicine has been issued. It shows that there were 13,015 readers during the year, that 307 volumes were bought and that 1,200 volumes and 500 monographs were donated.

A new wing has been added to the Charlottetown Hospital, fully equipped for surgical operations, and the care of patients with contagious diseases.

Dr. C. I. Kelly (McGill, '91), practising in Hamilton, is reported to have recently delivered a very able lecture on "Electricity and Magnetism" before the Royal Astronomical Society of Canada.

Dr. Freeman has been appointed superintendent of the Hamilton Hospital.

Mr. Chauncey A. Adams, '02, has been appointed assistant secretary of the McGill Young Men's Christian Association.

The extension of the Woodstock Hospital is now in a fair way of being undertaken; plans are also in hand for a nurses' home.

Dr. C. R. Shaughnessy, St. John, N.B., died of phthisis on the 2nd of February.

Dr. D. P. Merritt, died in Elmira, where he had practised for many years. His family live in St. John and he received his education in Toronto.

Dr. Robert Lambert died in Windsor on the 22nd of January. He was in the 76th year of his age and was a graduate of Queen's in the class of '59.

Dr. Sangster, of Port Perry, died suddenly in Toronto on the 26th of January in the seventy-second year of his age. He will be remembered as the author of Sangster's Arithmetic and a strong opponent of the early constitution of the Ontario Medical Council. The council was composed of representatives elected by the profession throughout the province, representatives of the colleges and of the homœopathists. Dr. Sangster claimed that colleges not teaching medicine should not have representatives on the council, and won a good part of his case in the Legislature. Of late years Dr. Sangster was an elected member, and had become in sympathy with the council as now constituted.

Retrospect of Canadian Literature.

L'UNION MEDICALE DU CANADA.

The January number contains a paper by Dr. Alexandre Marmoreck, upon *Serum et Vaccin Antituberculeur*, which was read by Dr. Lemieux before La Societé Médicale de Montréal, as reported in this Journal at the time. Dr. Oliver Tourigny, of Trois-Rivières, has an article upon the Examination of Blood and its diagnostic value. There are two case reports by Dr. Alphonse Mercier upon cancer of the œsophagus and of the kidney; and one by Dr. Nadeau upon Extra-Uterine Pregnancy, with operation and recovery.

The December number opens with a paper by Dr. A. A. Foucher upon paraffin injections for correcting deformities, with the reports

and photographs. There is a report by Dr. Oscar Mercier of a case of Empyæma opening externally and into the stomach, and a communication by Dr. F. E. Dubé upon the Treatment of Irregular heart. The *Chronique Médicale* is very full.

THE CANADA LANCET.

The February number has four photogravures for frontispiece, and an opening article by Dr. W. G. MacCallum, which had been read before the Toronto Pathological Society December 30th, upon diseases due to organic insufficiency. Dr. Todd, gynæcologist to the Winnipeg General Hospital has a paper on Leiomyoma, and Dr. Rudolph contributes an article upon the paratyphoid fever state. There is a paper by Dr. John Caven upon Angina Pectoris and a communication by Dr. A. Groves, of Fergus, which was to have been read before the Canadian Medical Association in August last, upon Tuberculous Peritonitis. A reprint of an article upon the treatment of pneumonia completes the body of the number. The news of societies is very full, also the personals and reviews. The editorials deal with the treatment of cancer, pneumonia, tuberculosis, and the uses of organic extracts.

DOMINION MEDICAL MONTHLY.

The January number contains a paper read by Dr. Butler, before the Canadian Medical Association in August last, upon the Interrelations of Diabetes and other Constitutional States, and an article by Dr. T. A. McGraw, read at the same meeting, upon Intestinal Anastomosis. There is a case report upon Impetigo Circinata by Dr. Graham Chambers, of Toronto, and a report of a series of cases by Dr. Ross, of Halifax, read before the Maritime Medical Association in July. Dr. Grimmer supplies an account of paraffin injections in correcting nasal deformities. There are editorial articles upon getting into the medical profession, and upon the Canadian Medical Protective Association. The February number is devoted chiefly to papers by members of the profession in Vancouver.

LE BULLETIN MEDICAL DE QUEBEC.

The December number has an original communication by Dr. P. V. Faucher, upon Preventive Sero-therapy, and general abstracts. The November issue contains an article by Dr. Sirois upon the means that should be adopted to prevent the degeneration of the French-Canadian race, and a paper by Dr. Michaud on the administration of cod liver oil.

QUEEN'S MEDICAL QUARTERLY.

This Review, established seven years ago, has been acquired by Queen's Medical Faculty and the October number is issued under their auspices. It deals chiefly with ceremonies attendant upon the celebration of the fiftieth anniversary of the university.

MONTREAL MEDICAL.

The November number, the last at hand, contains an article by the editor Dr. Lecavelier upon the importance of clinical diagnosis, and several reprints, chiefly from European journals.

LA REVUE MEDICALE.

This Review appears regularly every Thursday. The original articles for the past few weeks have been by Dr. Marmoreck, by Dr. Tourigny on *La Maladie de Little*, and by Dr. Lasnier, "ex-assistant chirurgien in London Hospital." There is a serial story or *feuilleton* by Dr. J. Jehin-Prume, entitled "Nelly Brown."

CANADA MEDICAL RECORD.

Dr. Lapthorn Smith records in the September number a report of a large fibroid polypus filling the vagina: recovery after operation.

THE MARITIME MEDICAL NEWS.

The January number has Notes on Mastoiditis, by Dr. Putnam, which were read before the Medical Society of Nova Scotia in July, and a report done with much humour, by D. Murray, M.D., from Logan's Tannery, of an extraordinary recovery from strangulated hernia. Dr. Geo. C. Corbet contributes Notes on Some Drugs.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

G. A. Syme, M.S., Melb., F.R.C.S., England. Carcinoma of the Duodenum; Resection; Recovery." *Lancet, January 16. 1904.*

The chief points of interest in this case are the rarity of the disease. According to Ewald, out of the 1,148 cases of carcinoma of the intestines only 19 were in the duodenum, and the fact that no less an authority than Butlin states that if a malignant tumour is found

obstructing the duodenum, resection is practically impossible. The case presented the clinical picture of obstruction at the pylorus probably due to a malignant growth. The operation showed the obstructing growth to be in the lower third of the duodenum. About three and one-half inches of the gut was excised, and the ends brought together by two rows of silk sutures, the first including all the coats, the second to invaginate the sero-muscular when the bowel had a peritoneal coat and muscular only when there was no peritoneum on the posterior surface. The case improved rapidly, though a second operation was necessary to cure a small omental hernia which occurred at the lower angle of the wound.

Charles A. Powers, M.D., Denver, Col. "Cancer of the Rectum; Combined Abdominal and Perineal Operation." *Boston Medical and Surgical Journal, January 21, 1904.*

The thoroughness of removal in cases of malignant disease should be the chief object of the surgeon, yet in the case reported, the question may be asked if the sacrifice of tissue and subsequent discomfort did not exceed the requirements of the case. The growth began $2\frac{3}{4}$ inches from the anus and extended for $4\frac{1}{2}$ inches up the rectum. Considering the extent to which the sigmoid can be brought down, and the situation and limits of the disease, it would seem that a Kraske operation would have been the better operation. The growth could have been as completely removed, and the ends of the gut approximated with the great advantage of retaining the action of the sphincters. Instead, the entire rectum and some of the sigmoid as well, for the pathological report states "the specimen consists of $11\frac{1}{2}$ inches of rectum" was removed and an artifical anus formed. The patient made a good recovery and pursues satisfactorily the occupation of cook in a private family. The writer believes it to be a type of operation which will gain in favour.

Dr. Damianos. "A Contribution to the Operative Treatment of Tuberculosis of the Elbow." *Deut Zeit. f. Chir.*, January, 1904.

This article is a statistical study of the results obtained in cases of elbow tuberculosis in von Mosetig-Moorhof's clinic in Vienna. The late tendency towards extreme conservatism in the treatment of joint tuberculosis, for which Mikulicz has been largely responsible, finds no favor in v. Mosetig-Moorhof's eyes. Radical removal, usually by an atypical resection, is the rule in his clinic, even in the earliest cases. He uses uniformly v. Bruns' transverse incision, through the olecranon,

with preservation of the triceps attachment; he begins active and passive movements about the 10th day; and he claims to have had no flail-joints nor subluxations in his results. Of 60 resections done during the period 1892-1901, the end results were investigated in 39. The exact details must be read in the original. Approximately, however, 80% showed elbows completely healed, though in a few slight fistulæ had necessitated small secondary operations. Death, often from pulmonary tuberculosis, occurred in 15% of the cases after the first year. Good free movement in the joints was secured in 29%; moderate in 38%; ankyosis in 33%. As regards function, the elbow was fit for hard work in 50%; for light work in 40%; and in 10% it was useless.

Damianos proceeds to cite figures from half a dozen of the other large surgical clinics of Germany; and, comparing these with the results of those who advocate the conservative method (notably Henle, of Breslau), claims a very decided advantage in favor of radical treatment.

We believe his claim to be justified, at least in so far as the elbow is concerned. Certainly one must individualize; and the elbow is a particularly grateful joint (to use the German expression), for radical operative treatment.

Dr. Karl Thoenes. "End-Results in the Operative Treatment of Peritoneal Tuberculosis." *Deut. Zeit. f. Chir.*, November, 1903.

In view of the recent reaction in some quarters against laparotomy in tuberculous peritonitis, the present article, a frank defence of the procedure, acquires an added interest. Thoenes has obtained the after-histories of 42 cases operated upon in Braun's clinic (Göttingen), and with these collates the results of 8 other surgeons.

He makes a rough division of cases into the ascitic and the plastic-adhesive forms; and finds that the former, in which fluid predominates, give a decidedly better prognosis than the latter. Taking a time-limit of 2 years, his 42 operated cases yielded about 60% of cures; and of 247 cases reported by 9 prominent surgeons he finds 54% cured. Such figures may certainly be regarded as favorable. But what are we to make of the report of Borchgrevink (Christiania), who not long ago claimed 81% of permanent (2 year limit) cures in a series of 22 cases treated medically? It is probable that the pendulum of enthusiasm has swung too far toward the surgical side during the last 10 years. Nevertheless, as regards Borchgrevink's statistics, Thoenes claims that 6 out of his 22 cases were plainly of so mild a nature that they should not be brought into comparison with those treated surgically. There are very light cases, he says, whose tendency towards

spontaneous cure is of the most evident; these are outside the domain of surgery. There are others of a very severe nature, with grave complications such as ileus, or suppuration, which are as plainly outside the domain of medicine. The intermediate cases, should properly alone furnish the basis for comparison in deciding the rival claims of surgeon and internist. Upon examining the statistics of 4 internists, Thoenes found reported 76 cases treated medically with 41% cures.—a figure 13% below that of the 9 surgeons quoted above. His conclusion, therefore, is that all patients who, after a period of medical treatment, fail to show amelioration, should be subjected to a laparotomy.

In an interesting digression the writer emphasizes the fact that the peritoneal tubercle may occasionally lack all specific microscopical appearances; it may, that is, be a pure fibroid, without bacilli, caseation, or giant cells; and the proof of its nature is obtained only by its subsequent infectiousness or by collateral evidence. The reviewer has had an opportunity of observing the truth of this statement.

Charles H. Frazier. "A Discussion of the Surgery of Tumours of the Brain, with a Resumé of the Operative Records of Five Craniotomies." *Amer. Jour. of Med. Sciences*, February, 1904.

The major portion of this article is concerned with a discussion of various points of interest in intracranial operations. As to the technique of craniotomy, Frazier uses the dental engine with trephine and burr; and allows 8 to 10 minutes in uncomplicated cases for raising the ordinary osteoplastic flap. He thinks highly of Cushing's pneumatic tourniquet for controlling scalp hæmorrhage. Crile's ligature of the carotid he is opposed to, as being neither safe nor,—as regards venous bleeding which is in reality the more troublesome,—effective.

He emphasizes the importance of keeping accurate tab on the blood-pressure during operation by means of the Riva-Rocci instrument; and, indeed, he urges the adoption of such a record as the only scientific criterion upon which to judge the advisability or otherwise of the two-stage operation. If a marked fall in blood pressure to below normal occurs after raising the bone flap and reflecting the dura, the operation should be finished at a second stage; otherwise it may be completed at once. Frazier is a strong believer in trephining as a purely palliative measure in obscure or inoperable cases. The relief of intracranial pressure almost invariably secures cessation of the headache, and prevention or amelioration of the optic neuritis and consequent blindness.

Interesting observations concerning "initial" and "consecutive"

bulging of the brain are too long to be properly quoted here. In conclusion, Frazier reviews (quoting from Woolsey), the results of operation for intracranial growths during the past 5 years, and finds them decidedly encouraging. As much can hardly be said for the results in his own series of 5 cases, the report of which he appends. In none of these was operation attended by any permanent result; in only one by temporary amelioration, a fatal recurrence appearing in 7 weeks. In one the growth was not found; in another the condition proved to be a "méningite en plaques" of tuberculous nature and inoperable. In the fourth operation had to be abandoned on account of the bad condition of the patient; and the fifth was a case of multiple sarcomata.

E. W. A.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND W. F. HAMILTON.

FRANCIS DELAFIELD. "Some Groups of Kidney Disease." *N. Y. Medical Record*, February 6th, '04.

All the cases of kidney disease which occur are classified in five groups, according as they possess certain important characteristics in common. Thus, in the first group are included those cases which occur secondarily in the course of some infectious disease; second, those which are associated with endocarditis; third, cases occurring during pregnancy; fourth, cases of young persons with albumen and casts, but no symptoms beyond anæmia; and fifth, the group of cases of nephritis, which run a subacute course from the outset. Appropriate remarks are made upon each group, and the whole is an admirable summary of present knowledge.

LOUIS PARKES, M.D. "Cancer Mortality and Grouping of Cancer Cases in Chelsea." *The Practitioner*, February, 1904.

With the object of shedding some light upon the subject of endemic areas and "cancer houses," Dr. Parkes, the medical health officer of Chelsea, examined the mortality statistics for malignant cases in this district during the period 1891-1903. There were 859 deaths of private residents and of these 763 were of persons residing at or shortly before the date of their deaths in 763 separate houses: that is to say, in the 13 years only one death was registered in connexion with each of these 763 houses. Ninety-six of the deaths occurred in 47 houses, namely 90 in 45 houses, or 2 in each house; and in 2 houses 3 deaths in each were recorded during the period under review. In 763 houses, therefore, a

single death was recorded in the 13 years; in 45 houses 2 deaths were recorded, and in 2 houses 3 deaths were recorded. In 17 cases out of 45, over 5 years elapsed between the deaths of the patients who lived at the same address, and it hardly seemed likely that any direct infective agent had relation to the second case. In one of the houses where three cases occurred, there was an interval of three years and seven months between the first and second death, and of two years and nine months between the second and third death. In the other house where three cases occurred, there was an interval of one year between the first and second death, and of six months between the second and third.

Julius H. Hoelscher. Original Research Regarding Human Perspiration. *N. Y.* and *Philadelphia Medical Journal*, February 13th, 1904.

This paper deals with the analysis of human sweat in normal and abnormal subjects, 89 in all. The following conclusions are drawn :—

1. The hot air bath causes a temperature rise in the healthy adult, increases the pulse rate, lessens blood pressure, and increases oxidation and the elimination of carbonic acid.

2. The hot air bath is of decided value in acute and chronic uræmia, shown by the fact that the perspiration contains a considerable excess of urea and nitrogen.

3. In articular rheumatism, in conjunction with salicylates the hot air bath gives more rapid results and lessens cinchonism.

4. Certain types of myocarditis seem to be benefited by the hot air bath.

5. Pilocarpine should never be used without the aid of hot applications to the body.

6. All tests failed to disclose the presence of bile pigments in the sweat.

7. Sugar tests failed to reveal the presence of sugar in sweat obtained from diabetics.

8. A case of chronic constipation and indicanuria did not disclose the presence of indol or skatol in the sweat.

9. Regarding the function of eliminating normal and abnormal substances, the skin is not to be compared with the kidneys.

10. Free sweating seems to favorably affect the course of psoriasis and other skin diseases.

11. 1,000 c. c. of sweat contain about eleven and one-half grammes of solids (nearly three drachms), one-half inorganic and one-half organic; about six decigrammes (nine grains) of urea; and about .17 centigramme (eight grains) of nitrogen.

H. C. Earl. "The Cytoloy of Serous and Serofibrinous Effusions of the Pleural and other Serous Cavities." *The Dublin Medical Journal*, December, 1903.

This is the subject of a presidential address, delivered before the section of Pathology in the Royal Academy of Medicine in Ireland, 6th November, 1903, by Dr. Earl. The investigation was very thorough, and strong evidence was obtained that cyto-diagnosis is worthy of a place with other microscopic methods.

Robert H. Wilson. "The Significance of Urinalysis in Pregnancy." *American Journal of the Medical Sciences*, February, 1904.

Dr. Wilson discusses what are the customary findings in normal pregnancy; the significance of departures from the normal, and the dependence which may be placed upon urinalysis as a warning of impending eclampsia. Amongst other conclusions, it is affirmed that a severe eclampsia may develop in cases in which the urine was apparently normal, and that the prognosis is improved, if, to other methods be added free bleeding and transfusion of saline solution.

J. T. Halsey. "Concerning the Formation of Sugar from Leucin." *The Amer. Journal of Physiology*, January, 1903.

The question of the formation of sugar from proteid has engaged the attention of the physiological chemists for many years and there was some experimental evidence to show that leucin was one of the intermediate products. Dr. Halsey, in the pharmacological laboratory of McGill University, has taken the question up again, and conducted an elaborate series of experiments with the view of determining if such a relation existed. The sum of his observations is that leucin, when fed to fasting dogs, does not produce sugar, though he admits the possibility that the leucin complex, as it exists in proteid, may be concerned in the formation of sugar, or that when leucin is fed with the other end-products of digestion, as in the experiments of Lusk and Stiles, it, together with some other substance or substances, plays a rôle in the synthesis of sugar.

John A. Sampson, M.D. "Ascending Renal Infection: with special reference to the reflux of urine from the bladder into the ureters as an etiological factor in its causation and maintenance." *Johns Hopkins Hospital Bulletin*, December, 1903.

Dr. Sampson arrives at the following conclusions:

I. The vesical portion of the ureter changes under the various de-

grees of dilatation and of intra-vesical tension of the bladder, and in each of these conditions one may find special provision for guarding the lumen of the ureter and thus preventing a reflux of urine from the bladder into the ureter. Under all conditions of the bladder the direction of the current of urine from the kidney to the bladder is a constant factor in the prevention of ascending infection. In addition there are present:

(*a*) In the distended bladder, the very oblique course of the ureter and the long ureteral valve, the lateral walls or labia of the ureteral orifice, the mucosa of the ureter.

(*b*) In the contracted bladder, the course of the ureter is less oblique, the ureteral valve is shorter and these factors apparently play a less important part in the protection of the ureter, than they do in the distended bladder. On the other hand, additional protection is afforded by a puckering of the ureteral orifice; the ureteral labia may come together, and the ureteral mucosa is thrown into folds.

II. The anatomical structure and physiological action of the ureters as well as clinical experience would indicate that the function of the ureters is not only to carry urine from the kidneys to the bladder, but also to prevent fluid from passing into the ureters from the bladder, and that under normal conditions it is impossible for the latter to take place. Cases have been reported which contradict this statement. The fact that an occasional case has been reported in which apparently a reflux has occurred, especially when nothing is known of the condition of the ureteral orifice in these instances, cannot be regarded sufficient evidence for supposing that it may occur in all cases.

III. Organisms may be conveyed from the bladder to the kidney through the following channels:

I. The general circulation.

II. The vesico-utero-ovario-renal anastomosis. There is both a venous and an arterial communication between the renal and vesical vessels through the ovarian and uterine vessels.

III. The blood-vessels of the ureter. The renal and vesical vessels may communicate with each other through the free anastomosis of the ureteral vessels.

IV. The lymphatics. The communication between the lymphatics of the bladder and those of the kidney is indirect either through the local glands of the bladder and kidney or through the lymph vessels of the ureter. (Sakata.)

V. The lumen of the ureter. This may be as follows:

(*a*) By injuries to the intro-vesical portion of the ureter.

(*b*) By the extension of an inflammatory process from the bladder

through the ureteral walls or along the lumen of the ureter. This is probably the most frequent way.

(*c*) By organisms travelling up the ureter, especially when the current of urine from the kidney to the bladder is interfered with by a stricture or something occluding the lumen of the ureter.

(*d*) By a reflux of urine from the bladder into the ureters, which may be due to:

1. Intra-vesical pressure, forcing the urine into the ureter.

2. Reverse peristalsis on the part of the ureter carrying urine from the bladder into the kidneys.

3. By suction of air into the ureters, when patients are examined in the knee-breast posture, through an open cystoscope.

The reflux of urine from the bladder into the ureters may be considered an etiological factor in the causation and maintenance of renal infection only when the intra-vesical portion of the ureter is diseased, thus impairing its function, or when some ureteral abnormality exists.

Two accessory etiological factors of great importance in the causation of renal infection must be considered:

I. An injured kidney, that is, one which presents a lowered *local* resistance. The most frequent cause of this is probably a ureteral stricture due to cystitis or calculus.

II. General ill health of the patient, that is lowered *general* resistance.

PEDIATRICS.

UNDER THE CHARGE OF A. D. BLACKADER AND G. G. CAMPBELL.

FRANCIS HUBER, M.D., New York. "Lumbar Puncture in Otitic Serous Meningitis; Cerebrospinal Form of Typhoid Fever; and Cerebrospinal Meningitis. *Archives of Pediatrics*, January, 1904.

Huber reports three cases admitted to the Ben Israel Hospital in which lumbar puncture was used as a therapeutic measure in meningitis and meningeal irritation due to various causes. The result in at least two of these cases is such that, taken in conjunction with other favourable reports of this method of treatment which have appeared recently, there is good ground to hope that in a certain proportion it will prove of real value as a curative method.

The first case was diagnosed as Otitic Serous Meningitis, and occurred in a child aged 2½ years. There was a history of a foul-smelling discharge from the ear for a period of two years preceding the attack. After four days of slight evidence of ill-health in the child, convulsions came on and were repeated at intervals of half an hour or less for ten days, when the child was admitted to the hospital. The condition then

pointed conclusively to a meningitis, in all probability due to the otitis. An operation was performed by Dr. Freudenthal and the diseased mastoid cells removed, when it was noticed that the intracranial pressure was such as to cause the dura mater to bulge into the wound. Rather than run the risk of infection by evacuating the fluid through the wound, the tension was relieved by a lumbar puncture, which allowed 30 grams of spinal fluid to escape. The following day 16 grams more were drawn off in the same manner with the result that the symptoms gradually subsided and the child was discharged from the hospital well.

The second case was that of a child, nine years of age, admitted to hospital four days after the onset of an acute illness with symptoms of meningeal irritation. A positive Widal reaction obtained on several occasions led to a definite diagnosis of typhoid fever of the cerebrospinal form. Lumbar puncture was done on the third and fifth day of the child's stay in hospital and two drachms of fluid obtained on each occasion. The author, while admitting that there was some doubt as to whether the subsidence of the cerebral symptoms was due to the effect of the lumbar puncture, is inclined to believe that such was the case.

The third case reported is much more definite as regards the beneficial effect of this form of treatment. It is that of a child aged $2\frac{1}{2}$ years brought to hospital after an illness lasting five days, and characterized by fever, headache, vomiting and constipation. On admission there was retraction of the head, photophobia, Kernig's sign and a semi-stuperose condition with other symptoms pointing definitely to meningitis. On the day after admission an unsuccessful lumbar puncture was made, but the following day on repeating the attempt, 11 drachms of cloudy fluid escaped through the needle. No micro-organisms were recognized in it, but there were numerous pus cells. Three days later there was marked improvement in the child's condition and recovery was complete by the end of two weeks. While it is impossible to establish absolutely between the treatment and result the relationship of cause and effect, the large amount of cerebrospinal fluid which escaped pointed to much increased tension, the lowering of which it is reasonable to hold would tend to promote absorption.

F. M. Fry, B.A., M.D., and C. F. Martin, B.A., M.D., Montreal. "Some Cases of Infantile Nephritis." *Archives of Pediatrics*, Jan., 1904.

The authors point out the slight attention which has hitherto been paid to the subject of nephritis in infants; with the single exception of J. L. Morse's article, nothing is to be found in the literature.

An investigation was made of 100 infants under the age of three

months without regard to the apparent condition of their health at the time, selected inmates of the Foundling, Maternity, and Grey Nunnery institutions, Montreal. With males, the usual method of obtaining the urine, that is, strapping a bottle to the infant's thigh, was followed, but in females Dr. Fry devised a means of securing samples which is vastly superior to the usual one of squeezing out the urine passed into a napkin or sponge. Reflex stimulation of the bladder by means of cold applied above the pubis or by manipulation of the orifice of the urethra was found to result in the expulsion of the urine with sufficient force to allow of its being collected in a bottle placed so as to receive the stream.

Of the 100 infants under investigation 65 were fed artificially and 35 breast-fed, and the urine was examined on three different days in each case. The specific gravity was low, an average of 1006.1, with extremes of 1028 and 1001, being obtained. The reaction was acid in 64 per cent. and neutral in 36 per cent., a much higher percentage of neutral urines being found among the artificially fed, only nine per cent. of the breast-fed giving a neutral reaction. Albuminuria was present in 19, and 17 of the 19 showed casts as well, mainly granular and hyaline with occasional epithelial. On the other hand, 14 cases had casts without albumin. Uric acid was in abundance in 26 cases, of which 24 showed albumin and casts and all but two either albumin or casts. There seemed to the authors to be a relationship between excess of uric acid and renal irritation or disease. Of the 26 showing evidence of uric acid excess, 19 died and autopsies were obtained on 7, and the finding in every case was parenchymatous nephritis, uric acid infarcts, and marked degeneration of the convoluted tubules.

The authors conclude "that whatever may be the relation of uric acid to nephritis, one can say that the nephritis which occurs in infants is not alone associated with the toxic conditions incident to marasmus. That it has been closely associated in some of these cases with the presence of marked increase of uric acid and that in many it is recovered from, may indicate a possible association between those two conditions, diseases which under favourable conditions are recovered from without any serious permanent disturbance."

Wm. H. Park, M.D. and L. Emmett Holt, M.D., New York. "Report upon the Results with different kinds of Pure and Impure Milk in Infant Feeding in Tenement Houses and Institutions of New York City: A Clinical and Bacteriological Study. *Medical News*, Dec. 5, 1903.

The writers of this report undertook to study the problem of infant feeding with cows' milk in New York from a new standpoint, the re-

sults obtained by the observation of healthy children in tenement houses. Hitherto, most of the statistics collected have been from institutions devoted to the care of children, and the majority of these children are, if not actually the subjects of disease when admitted, at least weakened by previous want of care, many of them being illegitimate, so that the results obtained were not a fair indication of the value of the different methods of feeding under other conditions.

The investigation began during the summer of 1901 and was continued for two years under the supervision of the Rockefeller Institute for Medical Research and the Research Laboratory of the Department of Health, New York city. The staff of physicians employed divided the cases under observation into groups, each worker having under his personal observation a group of not more than fifty infants, who were followed on an average for ten weeks. After excluding all cases which from any cause had not been under observation sufficiently long to furnish reliable data, there remained a total of 632, of which number 421 were observed during the summer months and 211 during the winter.

The clinical portion of the investigation consisted in the physician himself keeping an accurate record of the weight of the children and visiting them twice a week in their own homes. Advice was given in the matters of hygiene and the general care of the children. Where gastro-intestinal disturbances ensued, the milk feeding was stopped temporarily.

The bacteriological investigation of the milk was carried on in the Research Laboratory of the Health Department and the Carnegie Laboratory of the New York University. It consisted in a bacterial count once or twice a week of the milk supplied to the infants under observation at the time, and the identification of the different bacteria which were found to be present in the largest numbers. The pathogenic properties of these were determined by feeding cultures to young kittens and by subcutaneous or intraperitoneal injections of these cultures into guinea-pigs. Of the 239 varieties thus isolated and studied, very few were found to have come from the udders and milk ducts of the cow. The majority were found to be due to contamination of the milk after it had been withdrawn from the cow by bacteria from dust, manure, feed, etc. Cleanliness in handling the milk and the temperature at which it had been kept were found to exert a marked influence upon the predominant varieties of bacteria present. While no apparent relationship could be established between the special varieties of bacteria present and the health of the children, in about 40 per cent. of those investigated 2 c.c. of a broth or milk culture proved fatal when injected into the peritoneal cavity of guinea-pigs. On the other hand

in only one case was illness or death produced by feeding 48-hour cultures to kittens from two to ten days of age.

The cases selected for observation were healthy children in the most densely populated part of the city, very few (47), being a few months over a year old and over 50 per cent. under six months of age. A fact noted by all the workers was the surprisingly small proportion of infants in the districts canvassed that were bottle-fed. The following were the methods of feeding most extensively used in the area under supervision.

Condensed Milk. This was usually of the sweetened variety, was bought in cans, and prepared by adding hot water which had been previously boiled in most cases.

Store Milk. Milk supplied by small dealers and kept in large cans. It proved to be the poorest grade met with, averaging about 3.75 per cent. of fat. It is purchased twice a day, carried home and kept in pails or pitchers. In the summer it is usually heated at once in a saucepan, the temperature being raised until the milk begins to foam. Up to the age of 10 or 11 months, infants were given equal parts of milk and boiled water or barley water, and over this age, the whole milk. The bacteriological examinations showed it to contain from 4 to 200 millions of bacteria per c.c., the average being 20 millions per c.c. The form of heating employed, killed, it was found, from 95 to 99 per cent. of the bacteria. During winter the average number of bacteria was 400,000 per c.c.

Bottled Milk. This was nearly always in good order when received by the consumer and averaged 500,000 bacteria to the c.c. It was used in the same manner as store milk.

Milk from Central Distributing Stations. This was of good quality but contained poor cream. It was mostly modified after a manner and Pasteurized before being sent out, three or four standard formulæ being used The milk was supplied in small bottles each containing just enough for a single feeding. Directions were given to the mothers regarding the number and quantity of daily feedings by the physicians in charge at the central stations.

Infant Foods were but little used, expense being the probable cause.

Breast Feeding was not reported upon except in a few cases as a control. It was found to be a common practice for the infant to be nursed once or twice during the day or only at night, and to be given the bottle for the remainder of the day.

In estimating the results obtained from the different methods, variations in weight and the presence or absence of digestive disturbance, particularly of diarrhœa, were considered. The cases were divided into

four groups:—Those who did (1) well, (2) fairly, (3) badly, and (4) the fatal cases.

The influence of *season* was shown by the good results obtained in 93 per cent. of cases during the winter as compared with 69 per cent. during the summer. The authors believe that heat is a primary factor in producing this difference, bacteria and their products being a secondary one.

The influence of *food* is shown by the following table, but here it must be remembered that store milk being the cheapest was used by the poorest class, among whom the least care was exercised in the preparation of the food.

	Percentage of good results.	
	Winter.	Summer.
Store milk	96	56
Condensed milk	92	60
Bottled milk	94	61
Milk from Central Distributing Stations	93	81

A test was made by feeding during two summers 51 infants on raw and 41 on Pasteurized milk of the same quality, and it showed in a most conclusive manner the value of Pasteurization.

In addition to collecting statistics the physicians engaged in watching the infants in their own homes were asked to state their own conclusions regarding the problem of infant feeding in the tenements. "It was practically the unanimous opinion that the most important factor in securing good results is intelligent care. This covers much: clean bottles and nipples; the willingness and ability to carry out directions as to methods of feeding, quantities, frequency, the stopping of milk at the first sign of diarrhœa, etc.; proper care of the milk itself while in the house, and methods of sterilizing; suitable clothing and cleanliness of the children, and as much fresh air as possible."

In a summary of the report the authors bring out the following points:—

During cool weather, neither health nor mortality was appreciably affected by the kind of milk nor the number of bacteria it contained.

During hot weather, the kind of milk taken influenced both the amount of illness and the mortality, and the effect of bacterial contamination was very marked when the milk was taken without previous heating.

When milk is taken raw, the fewer the bacteria the better are the results.

With milk of average quality, those infants fed on sterilized milk did much better than those fed on raw milk.

No special varieties of bacteria were found which seemed to have any special importance in relation to the summer diarrhœas of children.

After the first twelve months of life, infants are less and less affected by the bacteria in milk derived from healthy cattle.

Since a large part of the tenement population must purchase its milk from small dealers at a low price, everything possible should be done by health boards to improve the general milk supply of cities by enforcing proper legal restrictions regarding its transportation, delivery, and sale.

Of the methods of feeding now in vogue, that by milk from central distributing stations undoubtedly possesses the most advantages.

Since what is needed most is intelligent care, all possible means should be employed to educate mothers and those engaged in the care of infants in proper methods of doing this.

Bad surroundings, though contributing to bad results in feeding, are not the chief factor.

Close percentage modification of milk is not necessary to obtain excellent results in the great majority of infants.

The injurious effects of table food to infants under a year old, and of fruits to all infants and young children in cities, in hot weather, should be much more generally appreciated. G. G. C.

Society Proceedings.

OTTAWA MEDICO-CHIRURGICAL SOCIETY.

Eighth Meeting, February 21st.

Held in the County of Carleton General Protestant Hospital, the president, Dr. H. B. Small, in the chair.

The programme was entirely made up of the exhibition of clinical cases by Drs. McElroy and Robinson of the attending staff.

Ninth Meeting, February 4th, 1904.

The President, Dr. H. B. Small, in the Chair.

A paper on "Eclampsia" was read by Dr. Thos. Gibson. The frequency, the mortality, the pathology and etiology so far as known or conjectured, were first briefly taken up. The treatment was spoken of more fully. The necessity for prophylactic measures was emphasized. First of these was the routine examination of the urine, especially towards last 2 or 3 months of pregnancy. In suspicious cases, the time-honoured treatment by milk diet and rest in bed was first to be tried together with stimulation of the skin and bowels.

Dr. Gibson drew attention to the beneficial result he had obtained in a couple of cases from the feeding of thyroid extract—the effect being one of diuresis due to vaso-dilation and increased metabolism.

Where convulsions actually commence the essential measures are chloroform, bleeding, with infusion of salines hypodermically or intravenous sedatives, especially morphine and chloral, active stimulation of the skin and bowels with the induction of labor artificially if it does not commence spontaneously.

Pilocarpin as a diaphoretic is to be used with extreme caution. Veratrum viride is highly recommended for reducing the pulse tension, but it is doubtful as to how it actually does its work.

The discussion was opened by Sir James Grant. He emphasized the necessity of a close watch upon the urine for albuminuria and the limbs for œdema in all pregnant women. He used the bitartrate of soda to a large extent as a means of relieving the system by purgation.

Dr. Valade had many cases of eclampsia during his experience. His routine treatment was bleeding and, for the past ten years, morphine. He had lost but two cases. In those he did not bleed, as the condition of anæmia was so great, he did not think they would stand it.

Dr. J. G. Smith cited three cases of eclampsia. In the first there was no premonitory sign. The convulsions were controlled by chloroform and morphine and labor was brought on at once. The skin was stimulated by hot packs and pilocarpin. This is the only case in which he has ever used pilocarpin, and the effects were disastrous. Oedema of the lungs set in at once and three days afterwards, an abscess of the lung from aspiration was noted. The patient recovered. In the second and third cases Dr. Smith had noted premonitory signs, but prophylactic treatment failed. With the onset of convulsions, he used chloroform, morphine hypodermically and bromides and chloral per rectum. Active purgation and diaphoresis were used. Both cases were bled. Both cases recovered without the onset of labor but in each, four weeks after labor set in spontaneously with delivery of a dead fœtus.

He put the questions: First, is it advisable always to bleed to reduce the blood pressure; second, should we not always deliver in eclamptic convulsions, by inducing labor artificially, if necessary.

Dr. Small, emphasized the treatment by bleeding. He was quite satisfied that one need never fear to draw blood freely. It is well though to inject intra-venous saline solution subsequently. He had never met a case in which it was necessary to induce labor—as in all his cases it had come on spontaneously.

Drs. Robinson, Echlin, McElroy, and M. O. Klotz, also took part in the discussion.

Dr. Gibson closed the meeting with a few words in reply to questions put.

It was announced that at the next meeting Dr. Lafleur, of Montreal, would speak on "Dilatation of the Stomach Without Actual Obstruction."

SOCIETE MEDICALE DE MONTREAL.

Meeting January 26th.

DR. VALIN, PRESIDENT, IN THE CHAIR.

DR. J. E. DUBÉ read a paper upon Syphilis and Tuberculosis. He laid special stress upon the possible simultaneous development of the two conditions and the influence of the one upon the other. He dwelt upon the seriousness of the prognosis, and thought that the antisyphilitic treatment should be suspended when tuberculosis was present.

DR. DEMARTIGNY hoped that Dr. Dubé would, at some future time discuss the question of the differential diagnosis and treatment. He quoted a case of gumma in the frontal region which was about to be operated on by a surgeon as a malignant tumour, yet disappeared after appropriate treatment. He had also seen a case of amenorrhœa of three years' standing which had puzzled gynæcologists, and was overcome by the use of iodide of potash and mercury.

DR. LECAVELIER cited a case of pulmonary syphilis occuring with tuberculosis and said that at the autopsy, cavities holding bacteria were present with gummata in neighbouring parts.

DR. MERCIER favoured treatment by injection of cacodylate of mercury and said he intended bringing a patient suffering from the two diseases before the society.

DR. VALIN agreed with Dr. Dubé that the best authorities were in favour of suspending antisyphilitic treatment when tuberculosis was present.

DR. H. LASNIER reported a case of retro-uterine abscess. The patient was in good health, the mother of three children and had suffered from severe perineal laceration. The first examination gave the impression of a pronounced retroversion; the os and cervix were found directed upwards with a soft fluctuating mass in the vagina resembling the fundus of the uterus. By the use of a sound the real position of the uterus was revealed, and at the same time all doubt as to the nature of the mass in the uterus was removed. An incision

through the vagina into the presenting point of the abscess allowed about a litre of pus to escape. Drainage was secured by a rubber tube kept in situ by a tampon and recovery was uninterrupted.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Ninth Meeting, 5th February, 1904.

H. S. Birkett, President, in the Chair.

Dr. Harvey Cushing, of Baltimore, read a paper entitled Observations on twenty cases of Gasserian Ganglion Extirpation for Trigeminal Neuralgia. In his paper he discussed (1) the various operative procedures which have been proposed, (2) the twenty cases done by him with their operative and post-operative complications, and (3) the physiological consequence of removal of the ganglion.

Dr. Cushing presented numerous photographs of his cases upon which in all cases the anæsthetic area was traced out. He also showed diagrams of the operation in detail and described his operation graphically on the blackboard, as also by a skull upon which the operation had been performed on both sides.

Sir Wm. Hingston : My experience is limited to one case. I did not follow Dr. Cushing's method and so came to grief, as I was deluged with blood and had to discontinue the operation which ended unfortunately for the patient. I recollect well the remarks of Krause upon the operation; it was comparatively new then and the method adopted was not the method adopted to-day, and the statistics published some years afterwards, that is four or five years ago, showed only a percentage of 25% recoveries and very often without relief. Again, I recollect with pleasure that Kocher, of Berne, one of the greatest of surgeons, after analysing the various methods of operating, by the sphenoidal method, the higher temporal method and the lower temporal method, emphatically pronounced in favour of the last as being the best and the one which should be generally adopted. He also spoke of the method of removing the zygoma and getting it out of the way, detaching it at both ends and turning it down, enabling one to get through the bone where it was thin and coming at once upon the trigemina. I may say, that, to find out that it was the Gasserian ganglion that was at fault and not the trigeminal is a comparatively recent work, and as this was not known long ago, the trigeminal might be divided and yet with no result. With this operation one sees just what one he is about, and the credit of this belongs to the reader of this excellent paper. How is it, that some in operating on the zygoma advise turning it out and replacing it, others suturing at each end after

putting it back in its place, and in the present case the removing of it altogether, thus getting it entirely out of the way? Krause reported I think some 30 cases, but he had operated on the dead subject, familiarizing himself with the position of the trigeminals and of the vessels so that he knew where to find them and where to avoid the one and divide the other.

Dr. Bell : I was very much impressed with the operation devised by Horsely and Krause and still look upon it as a very brilliant discovery in operative procedures. In the one case which I had, I did the operation two or three times on a cadaver first, and then upon my patient a woman of 50, who was sent me by Dr. Stewart. I did the osteo-plastic resection of the temporal bone with very great ease, as in Dr. Cushing's first case. The after result was exceedingly good. The operation was done about 11 years ago, and six years later I reported the case to Dr. Hartly along with a letter and photograph of the woman received at that time; she had had no return of pain whatever, though she still complained of paralysis of the masseter muscle and the collection of food in the mouth. I quite appreciate the points with regard to the lower operation; first of all there is the avoidance of the meningeal artery, which fortunately in my case I had no trouble with, and second, the advantage of the removal of the zygoma allowing the arch to be brought down to a corresponding degree with the wasted muscle. I have since that time advised the operation in half a dozen cases but my patients have not consented to have it performed. I fully agree that this operation is to be reserved for the major cases of trifacial neuralgia. The practice of the operation is comparatively limited and it is still further limited by its supposed gravity. I felt that Rose's operation was a very serious procedure, but on doing Horsely and Krause's operation on the cadaver, I fell that it ought to be a safe operation, and since it is still further improved by the avoidance of hæmorrhage by the low method, I think it ought to be more widely employed. I still have a feeling that the osteo-plastic operation gives one a good deal of room in pressing the brain away to the middle line of the skull and it seems to me that a considerable amount of room is necessary.

Dr. Buller : I do not see why the motor root should be got rid of in this operation, as its removal could not influence the sensory. I should like to know if the operation would not be more perfect, if, instead of taking pains to destroy the motor root one might take pains to preserve it—it certainly cannot be responsible itself for the pain.

Dr. Armstrong : I think possibly in given cases, resection of the nerves in front of the ganglion would be effective and in three cases I

carried this out, one in a young woman who had a very long experience of this pain. She came to this country thinking that a change might help her, and after being treated at the hospital several times I resected the nerve just over the supra-orbital foramen but that gave no relief, and consequently I made a Horsely-Krause incision. After getting hold of the first branch I gradually teased off about half an inch from the cavernous sinus and removed it. She wrote me some three or four years afterwards from England, saying that she had been perfectly well up till that time with no return of the pain in the nerve. In the two other cases I did the same incision, and with a blunt hook I got out the 2nd and 3rd branches and removed, I think, in each case nearly half an inch. Of those cases I have no subsequent record, but they left the hospital quite well and free from pain. The method of approach certainly seems to me to be a direct one, and if one is operating for the Gasserian ganglion this is the proper way to get at it. I should like to know if there is any way of determining whether a resection of a portion of the nerve in front of the ganglion would be sufficient, or in what cases it would be sufficient, or whether to get permanent results it is necessary to go farther back and remove the ganglion itself—we should then have a classification which would be very useful.

Dr. Mills : I should like to ask what, in Dr. Cushing's opinion, is the bearing of this operation and its results on the question of the influence of the nervous system on nutrition.

Dr. Shirres : Last summer I saw a case operated on eight months before by Sir Victor Horsely, where he divided the nerve posterior to the ganglion, but it was not a success. Drs. Mitchell and Dawson, of Johns Hopkins, did a considerable amount of work in connection with the spinal roots two or three years ago and got regeneration taking place frequently, and, I think other observers have found the same thing, so the division behind the ganglion physiologically would not be a proper method of carrying out this operation. The operator in St. Luke's, who recommended the division of the three branches and then inserted rubber tissue between the nerves and the ganglion, from the number of cases he operated on seemed to be rather successful. In the case of Dr. Valance reported upon some nine months ago he had to stop the operation on account of the very severe hæmorrhage; the following day the pain was relieved, and within a week it had entirely disappeared and the subsequent operation was never carried out, showing that disturbance of the parts often has a beneficial effect. I saw two specimens of nerves in Queen's Square, and one by Dr. Barker, where there was absolutely no degenerative changes found in the nerve. I would like to ask the nature of the changes noticed after removal.

Dr. Archibald : How do you get away from the ophthalmic division beside the ophthalmic sinus; Krause simply evulses it, and I would like to know how Dr. Cushing managed that part of the operation.

Dr. Garrow: With Krause, middle meningeal hæmorrhage has been the chief difficulty in the procedure which he undertakes, but from reading the extended reports by other operators it would seem that hæmorrhages from the cavernous sinus and also from the small vessels in the neighbourhood have frequently been a source of this hæmorrhage demanding cessation of the operation and temporary packing and then proceeding with the operation some 24 hours afterwards.

Dr. Cushing, in reply to the various questions said that his operation was merely a modification of the original procedure. In reply to Dr. Bell's question he stated that the chief objection to the high operation was the compression needed to give the room necessary, that this compression was the thing to be avoided as it had produced the largest amount of fatalities. Krause had 7 deaths in his 27 cases more than others who followed his method; in five of these, the autopsy showed injury to the cortex with brain softening from hæmorrhage into the brain. With regard to Dr. Archibald's remarks, any acute increase of intracranial tension caused a great rise in the blood pressure and this takes place with no more difficulty in the experimental work than in this variety of conditions. In the high operations it is very much more marked than in the lower, and it is the failure of the vaso motor centre to respond to this stimulus that, I think, causes the profound shock which Horsely and Krause experienced. That is the chief objection to a large amount of room. The details of the osteo-plastic flap mean a very much more asiduous task when the bone is not removed. It is unfortunate, as Dr. Buller has said, that the motor roots cannot be left as there is only one result, as Dr. Shirres has shown in Sir Victor Horsely's case, in which there was return of pain after dividing the root, and that is, if that operation had been successful, it would have been possible there to have saved the motor root, or even if in this procedure the motor root had been divided and the ganglion extirpated, then you would have had a regeneration of the motor root. The whole question is whether there is from these cells a central regeneration as well as a peripheral one, we know there is a most active peripheral regeneration. You all know the experiment of dividing a nerve and inserting the end into a quill. Dr. Armstrong spoke of the resection of the rami on the peripheral side of the ganglion. I do not think this suffices, though it is a curious thing, that slight operations do have an important effect in some cases, but a peripheral division very often means regeneration, and it is almost the same thing to go

in below the base of the skull dividing the nerves at their point of exit. With complete extirpation, one almost never sees disturbance of the eye, unless some foreign disturbance occurs. Taste is also preserved. With regard to the parts divided the important point is to remove the portion containing the cells so that there will be no possibility of regeneration. As Dr. Garrow says my operation is merely a modification in the approach, and in removing the ganglion there is just as much hæmorrhage in one case as in the other, except that the hole is not so deep, and you can pack and press, with the structures nearer to you. But hæmorrhage varies from case to case; one may be quite dry and in another we may have to postpone the operation till its cessation. Practice on the cadaver is of the utmost value and particularly on a fresh subject.

Upon motion of Sir Wm. Hingston, seconded by Dr. Shepherd, a vote of thanks was tendered to Dr. Cushing.

Tenth Meeting, 19th January, 1904.

H. S. Birkett, M.D., President, in the Chair.

Drs. J. J. Ross, W. W. Chipman and J. R. Goodall, presented a case report of childbirth with complications, illustrated by a chart showing the quantity of urea and albumin excreted daily during three months. The complications referred to were those associated with eclampsia.

Dr. Lapthorn Smith : The theory to my mind which fits these cases is that urea or some other toxine is the cause of eclampsia, and that which brings on the convulsions is a spasm of the blood vessels in the brain; and, as we have convulsions in both men and women it does not seem that the placenta or thyroid has any influence. Anæmia of the brain is really the cause of the convulsions, and cases are recorded from all over the world where the administration of veratrum viride has immediately arrested the convulsions. One thing which interested me was the large resort to saline injections under the breast; in my own cases I simply use saline enemas, as my patients complain bitterly of the pain under the breast. I am glad that chloral is passing out of use, as it has been the cause of many fatalities. Of the three cases I reported last year all recovered with the administration of veratrum viride. Many years ago I advocated the opinion that, where this condition was suspected we might not be justified in letting the woman go beyond the third month, with a possibility of such grave risk. I was the only one who held that opinion, but since then it has been much more largely adopted, though again since veratrum viride has been used, many have been allowed to go on, though there is often a permanent damage to the kidneys.

Dr. Evans : One feels utterly incompetent to advance any theory either as to causation or treatment that will apply to all cases. As for veratrum viride I have used it conscientiously and carefully and have abandoned it, as it did not meet the requirements; it suits apparently some cases, for others it does not answer at all; there is no treatment which will suit all cases alike. With regard to the epidemic theory a peculiar thing to be noted is that cases vary at different times; one set of cases may prove fatal in spite of all treatment, while another set of cases may recover completely, though there is no apparent difference in the onset or course. In the Maternity Hospital we have had six or seven cases with only one death, the patient being moribund on entrance to hospital; all these cases recovered without veratrum viride. With regard to the pathological conditions, in a recent number of the *Zeitschrift* is reported two very interesting cases, one of a child dying from convulsions, the other of a child of an eclamptic patient dying a few hours after birth. There were the same identical conditions in the liver. I myself have noted the occurrence of convulsions in children of eclamptics often with deaths. It is studies, such as we have heard to-night, which will greatly aid in bringing us to a better understanding of the condition. The author's theory is that the toxine is of fœtal origin, whether from the fœtus or placenta is a question, and that this has produced a toxine in the maternal blood that acts deleteriously on the tissues, particularly the liver and kidney.

Dr. Shaw : I have made an extensive study of urine of pregnant women both before and after delivery, separating the various constituents. With regard to the urea, its presence varied, convulsions occurring where the amount excreted was normal; but more often when present the urea was as Dr. Goodall has described. At one time there was a theory that acetone had something to do with the occurrence of eclampsia, but I found that it occurred in cases without eclamsia, that it was not present where there was a dead fœtus, as has been stated, and that it was present under normal conditions. I have seen four post-mortems on women dying from eclampsia; in one case the cause of death was general miliary tuberculosis, in another, hæmorrhage in the brain, while the other two showed a condition of the liver somewhat as described. In the tubercular case there was albumin in the urine in small amount, and the acetone was very large: in the other case there was a fair amount of albumin. Bouchard has brought forward the theory of autointoxication, and supported it in many ways, but he also showed that urea was not the essential poison. There may be poisons circulating in the blood, which when eliminated by the kid-

neys are broken up and do not appear as poisons in the urine; leucomaines for instance, and they vary with the individual. Certain of these are very poisonous to rabbits, which, when injected into dogs have no appreciable effect.

Dr. F. J. Hackett : I would like to ask if there was any history of mental taint in this case. Not long ago I attended a case in which these symptoms were manifest; there were delusions of hearing, memory was lost and there was an indifferent behaviour to the child. On return of strength these conditions disappeared, but some time later I was again called, when there were the same symptoms and a high temperature. She now developed a typhoid with this very low mental condition. The child died at eight months. One plan of treatment I adopted was the letting of blood and I found this relieved the symptoms at once. Although the convulsions may be synchronous with urea one should not overlook the presence of albumin; the amount of albumin excreted is a good indication of danger to the patient.

Dr. J. J. Ross : With regard to insanity I had no data whatever. As to anæmia of the brain, in one case where there was an autopsy the brain was very much congested. I have not observed anything to induce me to believe in the epidemic theory.

Dr. Keenan read a case report of sarcoma of the tongue.

Dr. Archibald : The pathological diagnosis in this case has been very well worked out, all the fine points of this tumour being brought to light. It is a most difficult thing to diagnose between this condition and the tonsillar tissue at the root of the tongue. I saw the sections of this case showing the connective tissue framework, the vessels, the evident absence of inflammatory admixture and the intermixture of newly formed vessels together with mitosis; all these things had to be fully worked out, in order to distinguish it from the more benign form.

Dr. Birkett : This case came to me at the Royal Victoria Hospital and had all the appearances of an innocent growth in the lymphoid tissue at the root of the tongue. On removing a portion of the growth which was the size of a walnut, I was surprised to find it was pronounced a case of sarcoma, consequently it was passed over to the surgical side. At that time there was considerable discussion as to the nature of the growth, which showed the difficulty in arriving at the true nature of these tumours of lymphoid tissue. I operated some years ago on a boy for ordinary adenoids in the naso-pharynx; three years later the cavity was again filled with the growth, it was thoroughly removed and three years later another operation had to be performed, this was attended with the most violent hæmorrhage; in eight

months subsequent to this third operation the naso-pharynx was again filled, the only difference being that it appeared to grow from the lateral walls forming a bridge across the vault. The parents declined further operation, and on consultation with a colleague in New York, it was decided not to interfere, though the pathologist thought it was benign tissue. A specimen was submitted to Dr. Welch, but he also could not pronounce on the condition. On going to England interference was also declined. Dr. Wyatt Johnston pronounced it to be lympho-sarcoma. The patient still has this mass in the vault of the pharynx and the question is what is it. It is well known of course that adenoids do not recur after thorough removal.

Dr. England read a report of an operation for carcinoma of the rectum by Kraske's method, followed by recovery. This case is reported at page 179.

Dr. Archibald in reply to a question by the President: I have seen about half a dozen cases at the Royal Victoria Hospital, operated on by our surgeons, and the percentage of cures for the three years limit would approximately be one in every 4, 5, or 6. This case shows the importance not only of a rectal examination, in all cases of chronic constipation, with the finger, but also with the proctoscope which may reveal a condition that the finger would miss.

McGill Undergraduates Medical Society.

FRANCOIS POUPART.

BY

F. J. Tees.

François Poupart, naturalist, anatomist and surgeon, was born at Mans in France in the year 1661. Until his death in 1709 he lived in a state of comparative poverty, but this he bore without discontent. His early education was received from the fathers of the Oratory in his native place, and he was drilled in the humanities and in philosophy.

His love for science took him to Paris, where he studied at the Jardin du Roi. The curriculum seems to have been a varied one and included physics, natural history, comparative anatomy, philosophy and geometry. Entomology had an especial charm for him and he devoted much time studing the habits of live insects and the anatomy of dead ones.

Poupart realized that the smallness of his means was sufficient to discourage him from pursuing his investigations at a time when scientific work was unlikely to lengthen one's purse, but this did not thwart his purpose. Mainly as an aid to his other work he applied himself seriously to the study of anatomy and surgery. He finally pre-

sented himself for examination in the latter at the Hôtel-Dieu in Paris and is said to have passed with credit, although he subsequently astonished everybody by announcing that he had studied but the theory and did not even know from experience how to bleed a man. Opportunity to practice surgery was thereupon given him and at the end of three years he took his doctor's degree at Reims.

Some articles published in the *Journal des Savants* gained him an immediate reputation, and Fontenelle narrates how with great astonishment people learned that this obscure man, modest inwardly and outwardly, even poorly clad, was none other than a genius. In 1599 he was admitted to the Academy of Science as the pupil of the celebrated Mery, anatomist and court surgeon, a man of gruff manners and of positive opinions. Mery expended much good energy in writing a book on the fœtal circulation to prove among other things that the foramen ovale serves to convey blood from the left to the right auricle in opposition to the theory held then and now. Yet Mery accomplished much of genuine worth and was the first to show that in herina the peritoneum is not pierced but is carried down as a covering of the protrusion. He was a very diligent worker, and not satisfied with the labours of the day, he is said to have spent his nights secretly dissecting in his bedroom, a practice not always to be commended where health inspectors exist. He had a great antipathy for Latin, and the biographer Eloy writing about 1775, cites him as a proof that a degree in Arts was not necessary at that time to produce a very excellent doctor.

Mery's pupil, Poupart, was not less diligent than his master. Much of his work was published in the *Journal des Savants*, and in the pubcations of the Academy, and included various memoirs on hermaphrodite insects, a "Dissertation on the Leech," a "History of Formica leo and Formica pulex," "Observations on Mussels" and a "Treatise on the Apparition of Spirits." His "Complete Surgery" was his masterpiece and became one of the best known works on the subject at the time. In it was included a "full and exact account of osteology."

Eloy credits him with the discovery that the sacrum and coccyx are but modified vertebræ. He seems to have made a study of deficiencies compatible with a continuation of the bodily functions; thus he describes the case of a patient who went through the world short of one kidney, and gives an account of how a woman from whom he had removed half of the skull used to gain her livelihood by receiving alms in the receptacle thus provided.

Poupart's name is seldom heard now except in connexion with the ligament described by and called after him, although his description, so says the biographer, was neither new nor accurate.

JOHANN FRIEDRICH BLUMENBACH—1752-1840.

BY

F. J. HEWITT.

Johann Friedrich Blumenbach, a distinguished anatomist and physiologist, was born at Gotha, 11th May, 1752. He studied medicine at Jena, and afterwards at Göttingen, where he took the degree of Doctor in 1775. Such a high opinion was entertained of his acquirements that he was appointed adjunct professor of medicine in 1776, and in 1778 he was made professor. In 1812 he was elected secretary to the Society of Royal Sciences. He was a member of nearly all the societies of Savants of the civilized world of his day. He did great service by investigations in general Anthropology of which he was, in fact, the founder.

His researches in Comparative Anatomy and the history of development rendered him famous. He collected all the facts, touching on comparative anatomy, which had been stored up in the literature of earlier observers, and added to them observations of his own.

He was the first to undertake the task of determining the anatomical differences between the various races of man, especially Europeans, Negroes and Indians. His far-famed collection of skulls, of various nationalities, had a stimulating influence upon the study of this important part of ethnology.

Amongst his discoveries was that made during the dissection of the eye of a seal :—that the axis of that organ admits of being lengthened and shortened, thus permitting the animal to see clearly in media of different densities, as, air and water. In physiology, he was of the school of Haller, and was in the habit of illustrating his theory, by a careful comparison of the animal functions of man with those of lower animals.

He was the author of many works on Medicine, Physiology and Anatomy. His thesis, on the occasion of taking his degree of doctor 1775. De Generis Humani Varietate Nativa, was the germ of the craniological researches to which so many of his subsequent enquiries were directed.

In 1778 he began to enrich the pages of the *Medicinische Bibliothek*, of which he was editor from 1780-1794, with various contributions on medicine, anatomy, etc. In 1787 he published Institutiones Physiologicæ, a condensed and well arranged view of the animal functions. This work went through many editions in Germany, where it was the general text-book of that science. It was translated into English, in America, by Caldwell in 1798, and in London by Elliotson in 1807.

His Handbuch of Comparative Anatomy, a work by which he was widely known, went through many editions. It was translated into

English in 1809 by the eminent English surgeon Lawrence, and later, with the latest improvements and additions by Coulson in 1827. This manual of Blumenbach's will always be esteemed for the accuracy of the author's own observations, and his just appreciation of the labours of his predecessors.

One of the most extensive of Blumenbach's works was Decas Collectiones suæ Craniorum Diversarum Gentium Illustrata, in which, accurate delineations of the skulls in his collections are given with brief description of each. It appeared in parts until sixty crania were represented, exhibiting, in a striking manner, the peculiarities in form of the skulls of different nations, and justifying the divisions of the human race into several great varieties or families: Caucasian, Mongolian, Malayan, Negro and American. The classification, he thus prepared, has been very generally received and most later schemes have been modifications of it.

He addressed to Sir Joseph Banks, London, 1794, a work called Observations on some Egyptian mummies, which was translatedinto French by Chardel in 1806. Blumenbach enriched the medical literature of his time with a great number of memoirs and short articles, and was a constant contributor to the current medical magazines and papers of the day. Although the greater part of his long life was passed in Göttingen, in 1787 he visited Switzerland. He was in England in 1788 and 1792. The prince Regent conferred on him the office of physician to the Royal family in Hanover in 1816. The Royal Academy of Paris elected him a member in 1831. He died at Göttingen 22nd January, 1840.

The slanting surface of the body of the sphenoid bone between the sella turcia and the basilar process of the occipital bone, the clivus, has been called after him, and is known as the Clivus of Blumenbach.

A meeting of the general committee appointed by the meeting of graduates at the Windsor Hotel on March 4th, 1903, for the purpose of devising means for the collection of the amount required to build a Students' Union, will be held at 8.30 o'clock on Wednesday evening, the 2nd March, 1904, at the Windsor Hotel. As several important questions concerning this scheme must be decided at this meeting, every member of the committee is earnestly requested by the secretary to be present.

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THE RELATION OF THORACIC TYPE TO LUNG CAPACITY.

BY

R. TAIT MCKENZIE, M.D.

Senior Demonstrator of Anatomy, Medical Director of Physical Training, McGill University, Lecturer in Artistic Anatomy, Art Association, Montreal.

The continual repetition in daily conversation of such terms as "broad-chested," "deep-chested" and their opposites, "narrow, flat or hollow-chested," brings forcibly to mind the importance of the shape and carriage of the thorax in our estimate of the human figure.

While the muscular development has something to do with the outward appearance of the chest wall, it is upon the configuration of the ribs and sternum, and the curvature of the spinal column, that the real type of the thorax must be based. There are infinite varieties and individual peculiarities to be found in the course of a large number of examinations; still, for the purpose of this paper I would direct attention to two well marked types (1) the broad and flat thorax, that, looked upon amongst athletes as characteristic of the vaulter, jumper and hurdler; and (2) the round, barrel shaped thorax that is found in the wrestler, swimmer and fighter.

These two kinds of thorax insensibly merge, and one finds in a large number of individuals many who occupy a sort of middle ground, but the great difference that is commonly found can be well shown diagramatically in two typical cases, taking the breadth and depth as sides of a rectangular figure.

In one case the depth exceeds the average by 1.1 inches, and the breadth falls below the average by .5. In the other, the depth falls 1.4 below the average, and the breadth exceeds it by 1.1. These two examples may be taken as fair representatives of the two types under discussion, and the capacities 260 and 265 cubic inches are about the same.

The estimation of the part played in respiration by the various muscles has enjoyed the attention of anatomists from the earliest times; even before the time of Galen it was discussed, and the action of the diaphragm was fairly well understood.

Galen himself made a long series of experiments on animals, in some of which he cut the nerves to the intercostals, cutting through pectorals, serrati and scaleni, and concluded that this great muscle pulled the lower ribs upward and outward. Vesalius, who usually lost no opportunity of combatting any view of Galen, admitted this action, and called it a muscle of inspiration, but claimed that in this part of the respiratory cycle it went up into the thorax and pulled the ribs up with it. His own words are, "the movement of elevation and expansion of the diaphragm is so evident in vivisection, that the muscle pulls itself up into the cavity of the thorax and draws after it the liver and the stomach."

The true mechanics of the diaphragm were worked out by Duchenne of Boulogne, who by electrical stimulation of the phrenic nerves in the neck showed its action to be the raising upward and outward of the lower ribs and the lowering of the thoracic floor, increasing its lateral diameter to a very considerable extent, and its antero-posterior diameter but very slightly. He found that if the animal were eviscerated the muscle pulled the ribs downward and inward, and hence he concluded, that the abdominal viscera give a solid point d'appui for its action in raising the ribs in inspiration. Beau and Massenet had previously concluded that the pericardium furnished the fixed point for this action of the diaphragm on the lower ribs.

The elevation and outward rotation of the upper ribs as proved by Duchenne's experiments, is due to the action of the intercostal muscles both acting in inspiration, and each pair acting on the inferior rib from the one above; the fixed point being the first rib, which is connected with the vertebra by the scalene muscles and to the cranium by the sterno-mastoid. These muscles do more than fix the upper ribs, for in forced inspiration the upper end of the sternum is raised from 1 to $1\frac{1}{2}$ inches, a very remarkable variation, when we consider the influence that would have on the slant of the lower ribs.

As we pass downwards we find the direction of the ribs becomes more and more oblique and their length increases up to the 8th or 9th. The lower end of the sternum is also much farther from the spine and in forced inspiration its lower end is projected forward about an inch. As Duchenne's experiments showed that the diaphragm alone had little influence in projecting it forward, we must conclude that this change of position is due to the general raising of the thoracic wall,

the pushing forward of the long oblique ribs by the action of the scaleni and the intercostals.

There is another action of the ribs that must be considered, a rotation on their long axis. At the level of the 7th rib in the mammary line an increase of one inch was noted in the breadth of the thorax, in forced inspiration, showing the outward rotation of the rib itself to be very considerable, while in the mammary line the 8th rib is raised two inches. The extent to which these various muscles enter into the respiratory act varies a good deal according to circumstances.

According to Dr. George H. Fitz, the thoracic form of breathing is found in all individuals, independent of sex, who wear clothing that limits the free action of the abdominal walls, which have to be free for the unhampered action of the diaphragm. Before his investigations on the subject, one of the favourite theories for the predominence of this type of respiration among women was, that nature had thus provided for the necessities of child bearing. It would seem from his observations to be more due to the corset than to the Curse of Eve. The abdominal form predominates in all races and individuals independent of sex who are untrammelled by constricting clothing, and either form can be cultivated to an extraordinary degree by a training of the co-ordination of various groups.

We are all familiar with the experiment in which the upper part of the thorax is contracted so that a hat is placed between it and a strap that had been tightly buckled about the expanded chest; also, with the other in which the abdominal walls are shoved out before the contracted diaphragm in inspiration, and the liver and other abdominal viscera displaced upward till the abdominal aorta can be felt or even seen pulsating through the anterior abdominal wall, all by relaxing this muscle and contracting the transversalis, internal and external obliques. These two experiments may be said to illustrate the extremes of thoracic and abdominal breathing.

Great lung capacity is usually associated with extreme development of both methods of breathing, but it was to find out if there was any relation between the configuration of the thoracic cage, and chest mobility or capacity, whichever it may be called—that the present investigation was undertaken. Is the broad, flat chest more likely to show a large capacity than the narrow deep one—or vice versa?

I must confess to a preconception that the broad one favoured a high record for capacity. It seemed self evident that the forward movement of a broad chest must greatly overbalance the rotation of the ribs and the broadening of a narrow one. I had in mind several cases of unusually large capacities in men having chests of that type, and others

had been reported that seemed to lend colour to the assumption that the flat chested man had at least this advantage to counterbalance his other defects. But we are prone to accept a plausible explanation of a doubtful theory, and carefully weighed evidence sometmes refuses to bear out what seems at first sight almost self evident.

The observations were made upon 500 young men of the student class, for the most part candidates for the athletic teams at McGill University, and as all the measurements have been taken by my own hand during the last six years, and without the intention of proving anything, the personal equation of error must be fairly constant. It is not so simple a matter to get correct and impartial measurements as would at first sight appear to one unaccustomed to such work. For the ease with which figures may be made to bear false witness, one has only

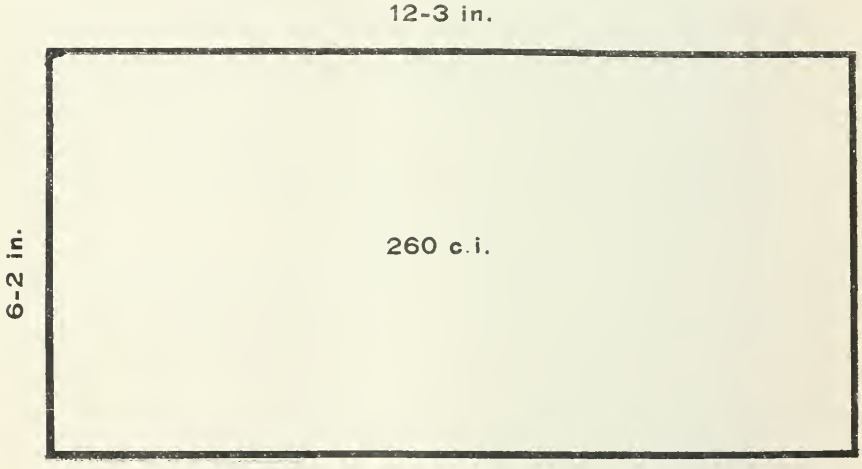

Fig. A.

to consult the results so temptingly shown on every magazine's advertising pages, or to check over the measurement card of one of the many physical culture systems with whch every town is now amply provided. The measurements taken were seven in number.

1st. The depth of the thorax quiescent, at the nipple line measured by calipers.

2nd. The breadth of the thorax quiescent, muscles relaxed at the same level, measured from behind by a sliding caliper. The relation of these two measurements gives the thoracic index, the average being 7.60-11.19 or 68 per cent.

3rd. The girth of the chest in forced expiration above the nipple line.

4th. The girth of the chest in forced inspiration above the nipple line.

The third and fourth measurements are of doubtful value, as much depends upon the condition of the latissimus dorsi and the pectoralis major. In inspiration the girth can sometimes be raised two or three inches, by causing these two muscles to spring out in contraction after a full breath has been taken in.

5th. Girth of the thorax in inspiration below the pectoral line.

6th. Girth of the thorax in forced inspiration at the same level.

These two are of much more real value as indications of true thoracic expansion, because the sources of error from the contraction of the superficial muscles is reduced to a minimum. The average expansion at both levels was found to be 3.2, but one would expect a higher figure at the lower level, owing to the increased obliquity of the ribs and the roominess of the thoracic cavity.

7th. The capacity of the lungs by the wet spirometer was recorded in cubic inches.

This represents the difference between inspiration and expiration. It can be greatly improved by practice, more particularly by cultivating the power to move the abdominal contents up after the relaxed diaphragm by contracting the abdominal muscles in forced expiration.

The increased power of using the abdominal muscles in this way shows an improved co-ordination and a high development of muscular intelligence, a valuable indication of control, and hence although not perhaps a perfect test of lung capacity, per se—it has a very real value.

The averages obtained from these measurements were as follows:—

Breadth of chest	11.19
Depth of chest	7.60
Girth of chest above nipples, inspiration	36.08
Girth of chest above nipples, expiration	32.86
Girth of chest below nipples, inspiration	33.98
Girth of chest below nipples, expiration	30.78
Capacity of the lungs	251.65

To find the influence of the thoracic index on the expansion, all cases were taken in which the thoracic index was above 7.60-11.19 or 68 per cent. Only those cases in which the breadth was under and the depth was over the average were used. Out of the five hundred, 94 such deep, narrow chested men were found with an average of 259.3 cubic inches, or 7.7 inches above the average capacity of the whole five hundred. A second table was compiled including all cases in which the

thoracic index was below 7.60-11.19 or 68 per cent. Only those cases were used in which the breadth was over and the depth was under the average. Of these broad, flat chested men, 58 in number, the average chest capacity was only 243.7 cubic inches, an average of 7.9, nearly 8 inches under the average, for the whole 500. These results would indicate that the broad, flat-chested man is at a disadvantage with his deeper but narrower chested competitor in so far as chest capacity or thoracic mobility is concerned. The sitting height of both sets of men was practically the same, 35.5 (deep) and 35.7 (broad). In weight, 137.7 (broad) and 138.9 (deep).

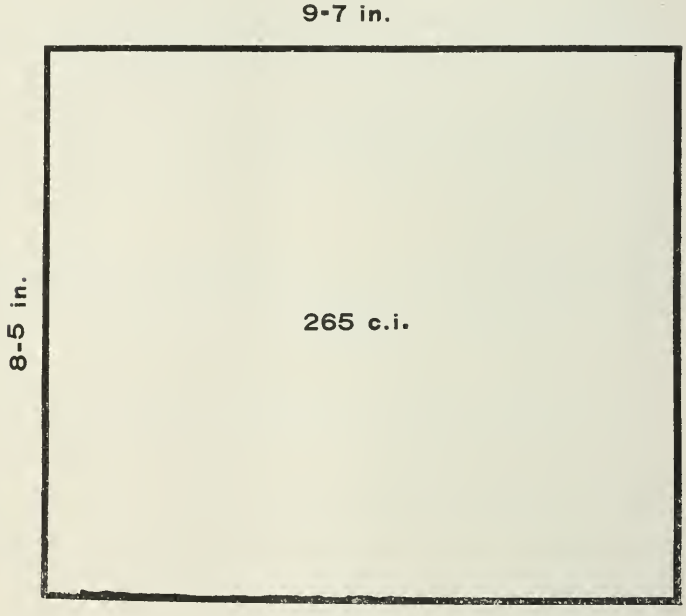

FIG. B.

With a view to find if capacity kept pace with the expansion as noted at the ninth rib, a table was compiled of those cases in which the measurement in expansion was over the average, while the girth contracted was below it. These cases would thus avoid all very large and all very small men, but all would have an expansion above the average. The capacity averaged 263.3 or 11.7 inches above the general average.

Another table containing cases in which the girths expanded and contracted taken at the same level fell within the general averages, for both their measurements showed a capacity of 241, or a falling below the average capacity of 10.6. These results are not conclusive perhaps,

but show an increased tendency to high capacity with increased expansion, and a decreased tendency to low capacity with low expansion.

Among these cases many curious exceptions occurred; one with 2.5 had 300 cubic inches, another with 4. had 245. One with only 1.5

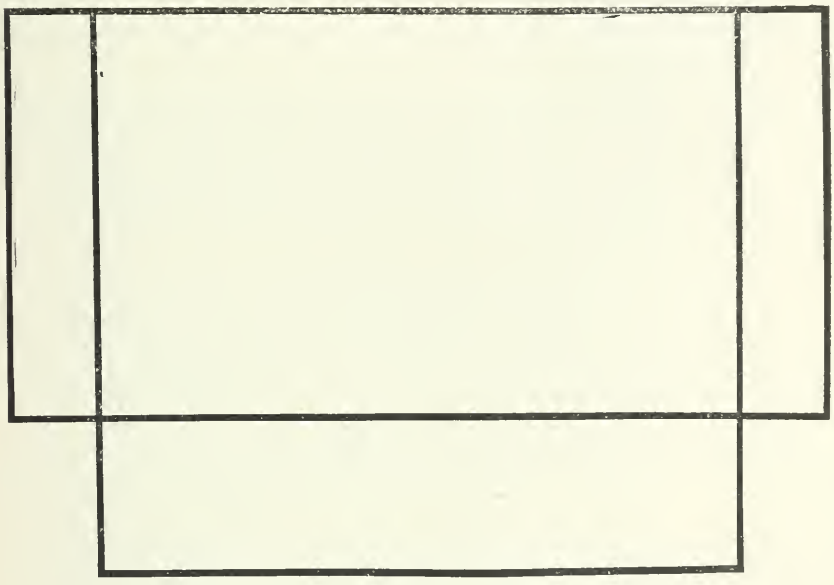

Fig. C.

expansion had 270 in capacity, nearly 20 inches above the average capacity with less than half the average expansion.

Some experiments were also made in constricting the thorax by a tight bandage to find the difference in capacity between the constricted and unconstricted chest, but they were inconclusive, going to show that in cases having large capacity the effect of constriction was unduly great, and in those of a small capacity, scarcely noticeable; they would tend to show the importance of thoracic breathing in registering a large capacity. The results obtained then would show that the deep-chested man has a better shaped thorax for securing mobility and capacity than his fellow whose thorax is broad and flat, and as it is a type usually associated with great vitality and staying power, it may safely be looked upon as a better type of thorax to possess. From the purely æsthetic standpoint of beauty it is more highly considered. In this theory I find support from the measurement of the thoracic index of certain well-known statutes by Greek sculptors. While we have not any anthropometric tables to go on, we have the concrete results of both

their observation and intention, in the ideal figures representing their purest conception of manly beauty and grace.

In earliest Greek sculpture we have the so-called Apollo of Tenea, a figure in which the limiting influences of Egyptian art still linger. In it we find the thoracic index to be 64, or 4 per cent. below our average; but when we come to the group of athletes, the work of Polycleitus and his school, early Greek, 550 B.C., we find it running from 68 to 75; in five statues measured 68, 70, 74, 75, 75, respectively. The Doryphoros, long taken as a canon of proportion for the ideal man, showing a young athlete or warrior of more mature years than the students observed, had an index of 75. The Antinous of the same sculptor has also an index of 75. The Discobolus of Myron, allowing for correction due to pose, has an index of 71.

In the group of figures, made by Lysippus and his school 100 years later, characterized by small head and long limbs, the most noted the Apoxyomenos, also a canon of proportion, shows an index of 73, and another of the same group shows the same. The stooping figure known as Jason falls to 64.

The ideals expressed by the work of Praxiteles are the most generally accepted as the flower of human beauty and his Hermes, perhaps his masterpiece, has an index as high as 79, the deepest chested statue I have found in the twenty measured. But the slender boy-like form of his Apollo Saroktonos shows a flat-chested youth having an index of only 64 or 4 per cent. below our average student, while the Dancing Faun shows an index of 69.

The fighting gladiator of Agasias is also below our average by 7 per cent., allowing for correction due to the pose. Of the Italian work, Donatello's David exceeds our average by 2 per cent, but shows a younger and more boy-like form.

The chest is usually deeper and more rounded in the athletic ideals of the Greek, and this type may be said to have formed for them a higher ideal of manly beauty and strength than the one actually found among us. It is interesting that their intuition should be borne out by the results obtained by the tape line, calipers and spirometer.

It has been remarked before this, that the Anglo-Saxons as a race are characterized by the broad and flat type of chest, and whether this is a racial trait or not, would require a much longer and more thorough investigation than we have given the subject, certainly the Italians and Greeks seem to be more rounded and less angular than the English or Americans.

In the anthropometric tables of Yale University the average student

has an index of 69, the measurement being 10.7 and 7.4, the depth taken after natural inspiration and the breadth from in front at the nipple line. This will account for the slight difference in the averages.

At the University of Wisconsin it is 67 per cent. (279-187), and at Washington and Jefferson College it is 68 per cent. (270-184) as in our own. So that we find the results culled from these widely extended fields agreeing with considerable exactitude. In the statuette of an athlete whose measurements and proportions were determined by taking the average of 400 picked athletes from Harvard, the observations extending over a number of years, the index is 68.6, corresponding pretty closely to the 80 per cent. man in a table of all students taken indiscriminately from the same college. Perhaps the hampering influence of clothing has flattened the chest, and the lost art of deep breathing, cultivated by an out-door life spent in the exercises of the field and forest has had something to do with it.

If increase of capacity goes with increase of relative depth, the moral might be drawn that development of the habit of completely filling and emptying the lungs would result in the improvement of the thoracic index; certainly the deep breathing will do good in many ways, and this will be not the least of them.

FLOATING KIDNEY AND APPENDICITIS ASSOCIATED WITH PELVIC DISEASES.

BY

A. Lapthorn Smith, M.D.,

Surgeon in Chief of the Samaritan Hospital for Women; Professor of Gynæcology in the University of Vermont, and Professor of Clinical Gynæcology in Bishop's College, Montreal.

My attention was first called to the association of appendicitis and prolapse of the kidney with disease of the pelvic organs, several years ago, when having treated during a whole year at the Montreal Dispensary a nullipara about thirty years of age for retroversion of the uterus and disease of the ovaries and tubes, with little benefit. I finally decided to take her into the Western General Hospital for the operations of removal of the ovaries and tubes and ventrofixation of the uterus. I was loth to remove these organs in such a young woman, but she had suffered from dysmenorrhœa, which was worse on the right side, ever since she was a girl, and from recurring attacks of pelvic peritonitis ever since her marriage; she had never become

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pregnant and she was complaining of indigestion, constipation and nervous attacks, during which she became very despondent, so that in her own words she was a trouble to herself and to everyone else.

As I have performed either Alexander's operation for shortening the round ligaments or ventrofixation of the uterus for retroversion many times, and have treated many more cases with pessaries and tampons, and have seen the reflex nervous disturbances disappear in the course of a few months in nearly all of them, I assured this patient, as I did all the others, that she could almost surely depend upon being greatly improved if not absolutely cured by the operation. She readily consented, in fact she had been urging me to operate much sooner; but it is my general rule not to remove ovaries from women under forty years of age, unless they have been treated unsuccessfully by their own doctor or by myself for at least a year.

When the abdomen was opened, the omentum was found adherent all around to the brim of the pelvis, and on detaching this, the uterus was seen lying retroverted in the hollow of the sacrum with the ovaries and tubes lying under it, all matted together with adhesions. In freeing these I did not notice, as I always do now, whether the vermiform appendix was attached to the tube or not, and I did not see it or look for it.

The ovaries were small and covered with a thick capsule as well as a network of shreddy adhesions. In fact they were sclerotic, the ovarian tissue and nerves being compressed by the contracting fibrous capsule, and would have been suitable for the operation recommended by Dr. Howett of Guelph, of scarifying the capsules so as to relieve the pressure. But at that time I removed all such painful ovaries, especially when the tubes were closed as they were in this case. Both ovaries and tubes were removed and the uterus was fastened up, the operation only requiring about twenty minutes, and the patient making a good recovery from the operation. Soon after I attended the meeting of the American Gynecological Society and had a conversation with Edebohls, who had been devoting a great deal of attention to floating kidney, and I remembered his telling me that when the repair of the cervix and the replacement of the uterus failed to cure reflex symptoms, that floating kidney would be found to be the cause. On my return from this meeting, I found the patient sitting up and almost ready to go home, but she assured me that she was only a little better and that she still had the pain in her right side. I at once examined her kidneys and found the right one movable and prolapsed. The patient was quite willing that I should fasten it up, and this was accordingly done. Much to my disappointment, however, she

claimed that she still had the pain in her right side, although it was now lower down and more localized. Instead of putting her hand all over the right half of the abdomen, she now pointed to the right lower quadrant, as the seat of her trouble.

At first I thought that it might be due to the adhesions which had been broken up, and to the stitches in the right broad ligament, but she was completely relieved of the pain in her left side which had been sewed in exactly the same way. I now felt convinced that she was suffering from appendicitis, but hardly liked to broach the subject of another operation, but the patient herself requested me to try once more, which I did and without much difficulty dug the appendix out of a mass of adhesions, cut it off level with the colon, stitched the fibrous coat of the cæcum together, and covered the wound in the bowel with a layer of peritoneum. She made a good recovery, and when last seen had gained in weight and was doing all her own work.

The next case that impressed me was a private patient, who, while on a pleasure trip around the world with her husband, was taken so ill on the steamer, that on her arrival in Montreal she had to be carried to the hotel. She told me that she had been under the care of several celebrated gynæcologists of London for some womb trouble, but did not know exactly what, and as she had been suffering for several years and was a nervous wreck, they at last advised her husband to take her for this trip. The last examination in London had brought on a severe attack of vomiting, as well as causing her excruciating pain. From this history I suspected a swollen and perhaps a cystic ovary with a retroverted uterus, but every attempt to examine her was unavailing, as she would immediately commence to vomit violently. I proposed an anæsthetic, but her husband would not consent. I kept her in bed under the care of a trained nurse, who gave her three hot douches a day, and I gave her bi-polar fine wire vaginal faradism, which soothed her greatly. Finally, after a month of treatment I was able to reach the top of the vagina with my finger, and at once felt the retroverted uterus lying on top of a swollen and most exquisitely sensitive ovary. As she described it, it was like a ball of fire, and the slightest pressure on it made her sick. I proposed to remove the ovary and perform ventro-fixation of the uterus, but after consulting with friends in England by cable, I was requested to get her well enough to return home so that she might be operated on there; but it required several months of treatment with iodine and tampons before she was able to travel as far as Portland to the steamer. As Mr. Greig Smith had already attended the husband for several years without their knowing that he was an authority on

pelvic diseases, I advised the patient to put herself under his care, and I wrote him an account of her illness and my diagnosis which did not include floating kidney. I heard from him shortly after their return, saying that he had removed the right ovary and done ventrofixation of the uterus and fixation of the right floating kidney, all at the one sitting; before she left the nursing home, Greig Smith himself had taken pneumonia and died. On my next visit to England I learned that the lady had been greatly improved in health, as regards her nervousness, but that she still had some pain in her right side which in the light of my subsequent experience, I have no doubt is due to a mild chronic appendicitis.

Since that time, now about six years, I have examined for floating kidneys a great many times and have found the right one prolapsed probably in about twenty per cent. of them. Manton, of Detroit,[1] states that in two hundred consecutive gynæcological cases he found that the right kidney showed an abnormal mobility in thirty-six per cent., and in twenty-four of these a diagnosis of chronic appendicitis was also made; a diagnosis which had since been confirmed by operation in seven of them. Manton says that while practitioners are familiar with the symptoms and diagnosis of acute appendicitis, but little was as yet known of the chronic form, which was often productive of great physical distress and suffering, and that he believed, with Edebohls, that movable kidney was one of the most frequent causes of appendicitis.

Edebohls' first paper on movable kidney was published nearly ten years ago and attracted little attention at the time, but his views are generally adopted all over the world at the present day. In this paper, he said: "the vermiform appendix receives its blood supply from the ileo-colic branch of the superior mesenteric artery. Its blood is returned by the superior mesenteric vein, the large trunk of which ascends along the right side and in front of the corresponding superior mesenteric artery, passes in front of the transverse portion of the duodenum, and unites behind the upper border of the pancreas with the splenic vein to form the vena porta." One of the first things that a movable right kidney must do, is to dislocate the duodenum and head of the pancreas, compressing the superior mesenteric vessels between the head of the pancreas and the bodies of the spinal vertebræ. The interference with the circulation of the appendix soon leads to chronic congestion of the organ, and that once established, the way for appendicitis is paved. Dr. Manton[2] says:

[1] American Journal of Obstetrics, January, 1903, page 119.

"The plausibility of this theory is evident if we take into consideration the anatomical structures of the appendix. The abundance of lymphoid elements in its mucosa and its low vitality predispose it to inflammatory states, which will be more than likely to result from impeded circulation."

Robert E. Morris,[2] of New York, puts the matter very clearly as follows: First, the large branches of the sympathetic nerves which go to the kidney are irritated, and we have various reflex phenomena, chiefly referable to areas of distribution of the nerves closely associated with the semilunar ganglia. Thus the patient may have mucous colitis as a functional neurosis proceeding from peripheral irritation to the kidney. We are apt to have irritation of Auerbach's and Meissner's plexuses, with the resulting intestinal fermentation, that is intractable under medical treatment until the kidney is fixed. The second set of symptoms common with loose kidney depends upon pressure upon other organs. A loose kidney may press upon the pyloric region of the stomach and cause gastric dilatation. It may press upon the common bile duct and give symptoms closely simulating the passage of gall stones. It may press upon the superior mesenteric vein, and by backing up the blood in the cœcum cause a congestive appendicitis. A third set of symptoms associated with loose kidney depends upon torsion of the pedicle. Smetimes the ureters are thus dammed and we have renal colic. Sometimes the veins are twisted and we have congestive nephritis."

Whether the anchoring of a movable kidney which has already caused a chronic appendicitis in this way would cure the condition of the appendix it is impossible to say. If the trouble had not advanced very far it might remain in "statu quo," or it might even improve on account of the better circulation. But if it had gone as far as the stage in which lymph had been thrown out and adhesions had been formed, it is doubtful whether these latter would be absorbed, and if they are not, then the reflex disturbances of digestion which we know are caused by the appendix being bound down and struggling to empty itself, would still continue to keep the patient a chronic invalid, even after the cause of the appendicitis had been remedied. I fear that an appendix once diseased is always diseased, and that instead of depending upon the anchoring of the kidney to cure it, it would be better to fix the kidney and remove the appendix at the same sitting, as I have done half a dozen times, and as I have been taught by disappointing experience in the past to do in every case,

[2] Harper Hospital Bulletin, August, 1899.

[3] American Journal of Surgery and Gynecology, January, 1904. page 100.

in the future, where the kidney is displaced and the patient complains of pain in the appendical region. Manton, who has come to the same conclusion, illustrates his contention with two cases which are so much to the point that I will quote them here.

"A highly nervous young woman, aged 23, who was referred to him by Dr. Charles D. Aaron. When ten years old was run over by a carriage, the wheels of which passed across the abdomen just below the ribs. She suffered a great deal at the time from contusion and shock, and has never been well since. After a great variety of medical treatment it was discovered that both kidneys were movable, and an operation was undertaken two years ago for their fixation. This proved eminently successful, and the patient was greatly benefited, being especially relieved from a constant backache from which she had previously suffered. Of late, however, she had grown worse, was extremely nervous, and complained of a great variety of ailments, chiefly referable to the abdomen and pelvis. Examination showed a retroverted uterus, and an enlarged left ovary which was prolapsed. The abdomen was very sensitive, especially over the appendical region. Although the appendix could not be definitely made out by palpation, a diagnosis of chronic catarrhal appendicitis following right movable kidney was made. The patient entered Harper Hospital where the appendix was removed, together with a small cyst of the left ovary, the displaced uterus was fixed to the abdominal wall. She made a smooth recovery and left the hospital on the 21st day, and is now relieved from all her former sufferings, and is perfectly well."

"The appendix removed was considerably elongated, thickened, and quite rigid, but was not adherent. The lumen contained a few drops of pus." In my opinion, had the appendix been removed at the time that the kidneys were anchored, the patient would have been saved a great deal of subsequent distress, and the nervous symptoms which still continued to trouble her would have been either cured or greatly ameliorated. Another case which he reports in the same paper is also interesting: The patient, a pale and delicate little woman, aged 32, had had two children; the last three years ago, and one miscarriage. Six weeks after the birth of the last child she took a long walk for one in her enfeebled condition, and was soon after seized with attacks of fainting, and suffered from gastric and nervous disturbances. Shortly after this she had severe pain in the abdomen, which later became localized in the right iliac region. Five attacks of this trouble have occurred at intervals, the first two being mild, the third more severe, confining her to the bed for thirteen weeks, while the last two have been more like the first. At one time she

is said to have passed almost perfect casts from the bowel. For the past year and a half she has almost constant pain in the right iliac region extending down to the knee. This is especially noticeable after exercise or indiscretions in diet. She has lost flesh and is especially miserable, being unfitted by her condition to participate in the active duties and pleasures of life. Two relatives, one a sister, have died from obscure conditions much resembling appendicitis.

On examination the right kidney was found to be movable several inches downwards and the appendix was thickened, very sensitive and could be felt by palpation situated low down in the iliac fossa. There was great sensitiveness at McBurney's point. The patient was sent to Harper Hospital where he anchored the right kidney, and three weeks later removed the appendix, besides doing several other minor operations for the restoration of the parturient tract. Recovery was uninterrupted and the patient left the hospital sixteen days later in excellent condition. The appendix was found to be much thickened, coiled on itself spirally like the whorls of a shell and contained pus.

It is sometimes almost impossible to tell which of these organs, the kidney or the appendix, is the cause of the pain. Such, for instance, was a case sent to me at the Samaritan Hospital by Dr. Sharp.

Mrs. H., 56 years of age, mother of four children, and two miscarriages, last pregnancy fourteen years ago. Menopause at fifty. Had good health and did all her own work until a few days before admission, when one day while working at the wash tub, she was suddenly taken with a severe pain in the right side and was barely able to crawl into bed. She began vomiting, and when Dr. Sharp saw her a few hours later she had a temperature of 103 and a pulse of 120. On examination there was a tense swelling larger than an orange, the centre of which was exactly situated at McBurneys point. The right side of the abdomen was tender and tense; it was dull on percussion and fluctuating, and all those who examined it had little hesitation in saying that it was a case of appendicitis which had reached the abscess stage and was walled off by adhesions, and all agreed that it should be opened and drained without delay. This was done, the incision being made exactly over McBurneys point. In going through the layers, the tense pus sac was reached and a large trochar was driven into it, when at least a pint of thin pus escaped. The trochar was removed, the opening enlarged with the finger and the cavity thoroughly washed out, some debris of cellular tissue being removed

by the fingers. My rule in these cases is not to break down the wall of defense, and as the appendix could not be readily found, the search for it was abandoned before any harm was done. At the bottom of the abscess a round dark solid body could be seen and felt, which was evidently the right kidney apparently prolapsed, and I remarked to Dr. Sharp that prolapse of the right kidney was recognized as a factor in causing appendicitis. Two pieces of drainage tube were inserted and gauze was packed around them to keep away the intestines, for a healthy coil of the latter had come into the incision towards the end of the operation. The good results of the intervention were immediately apparent; the pain ceased; the pulse and temperature fell to normal, and the patient was making a rapid recovery during three weeks when she was to have been allowed up, had there not been a sudden return of all the symptoms. This time, however, the swelling was four inches higher up and double the size of the first one. The abdomen was again opened by extending the original incision upwards and backwards, when without opening the peritoneal cavity the abscess sac was reached and emptied with a trochar, more than a quart of pus escaping this time. The trochar was removed, the opening enlarged with the fingers and the cavity explored with the hand in it, when it was found to be the right kidney distended to such a size that one could feel almost every part of the abdomen through its thin sac-like wall. The question then arose whether to leave it and drain or to remove it. Before deciding on the latter course the other kidney was easily felt normal in size, through the wall of the diseased one. The sac was easily seperated from its adhesions, and the pedicle tied in several segments. After tying the artery and vein and when pulling up the ureter to ligature it, a calculus the size of an almond was felt and could be seen through the wall of the ureter, which appeared to be ulcerated almost through, for no sooner was the slightest pressure applied, to see if the stone could be pushed back into the kidney, than it came through the ureter leaving a hole about the size of a ten cent piece. The ureter was tied a little lower down and dropped, when the kidney came out as easily as an ovarian cyst. The patient made a good recovery and went home three or four weeks later. The probable course of events in this case was that a stone had formed in the kidney, got blocked in the ureter, which latter it ulcerated through by pressure in the same way that a stone in the appendix ulcerates through, and the dammed back pus and urine which had distended the kidney and ureter above the obstruction, poured out through the opening in the ureter into the cellular tissue, causing the rapid rise in pulse and temperature and the swell-

ing at McBurneys point, which it was so easy to mistake for appendicitis. The kidney which was seen at the bottom of the incision at the first operation, was not there because it was prolapsed, but because it was still enormously distended. The second swelling occurred because the opening in the ureter was blocked by the packing and manipulations of the first operation, causing the kidney to refill. There was no pus in the urine, because that kidney was shut off from the bladder by the calculus.

When we come to consider the relation of appendicitis to diseases of the tubes, especially of the right one, medical literature of the last two years contains many reported cases of appendicitis bieng diagnosed as pyosalpinx, and vice versa, and still more in which both conditions were diagnosed as co-existing and were removed at one operation. Dr. McLaren, of Minneapolis, was the first to point out in a paper read before the American Gynecological Society the frequency with which the vermiform appendix, being heavy from inflammatory exudation, drops into the pelvis and infects the tube, in some cases causing a pus tube. It is well that this possibility should be generally understood, because when a young girl has a pus tube the natural and prevailing inference is that she has had gonorrhœa, which might not at all have been the case. These girls are generally very constipated, and their pain, which is generally on the right side, is very much worse during their menstrual period. It is also important to keep it in mind, because when such a girl suffers so much from disease of her appendages, in spite of every treatment carried out during a year, that she is becoming a chronic invalid and unable to work, and an operation is at last decided upon, it is very important to look for the appendix which will generally be found like a round coil, densely adherent to the right tube, or as I found it in one case to the left tube. In such a case on no account should the abdomen be closed until the vermiform appendix has been removed.

The condition of the tube most frequently mistaken for appendicitis is tubal pregnancy, of which quite a number of cases have been reported. I will briefly refer to a few of them. Dr. J. H. Stealy[4] records the following: Mrs. ——, 29 years of age, was five months pregnant and had been suffering from pain in the right side and a diagnosis of appendicitis and normal pregnancy had been made. The doctor diagnosed the real condition tubal pregnancy, but deemed it wiser to wait till the child was dead. He operated when she was 11 months pregnant and the tubal pregnancy was found and removed.

[4] American Gynecology for May, 1903, page 417.

The next case gave no history of previous pelvic trouble. At six weeks pregnancy she was taken with severe pains and some discharge of blood. The attending physician diagnosed appendicitis. These attacks continued up to seven and one-half months when she had a severe hæmorrhage, and on having the abdomen opened a tubal pregnancy was found and removed.

The next case had been married but a few months and had a previous history of appendical trouble. On vaginal examination the doctor made out the enlarged appendix as well as a tumour the size of an orange close to it. She had reported being unwell eight days previously and the doctor did not think of an ectopic gestation. But on opening the abdomen for appendectomy, a ruptured tubal pregnancy with much blood in the abdomen was removed, as well as the vermiform appendix.

During a discussion on tubal pregnancy at the meeting of the New York Obst. Society, 13th October, 1903,[5] Dr. S. Marx reported a case of tubal pregnancy which had been treated for appendicitis for two days before he took charge of the case and operated; while Dr. Willis E. Ford, of Utica, reported two cases which he had operated on for tubal pregnancy, and they proved to be abscesses from appendicitis.

I remember some years ago being called in consultation by three medical friends to decide if possible the nature of the disease in a woman who had been in poor health for some years, but who was suddenly taken with severe pain and symptoms of collapse. Her family doctor, who was first called, finding her with a swelling over McBurney's point, a low temperature and a fast pulse decided that she was suffering from rupture of an appendical abscess, and he urged immediate operation. This the family would not consent to until the diagnosis had been confirmed by another doctor, and one was called who was also a friend of mine. He at once made a vaginal examination and found a nodular mass in the right half of the pelvis completely filling it and extending up to the swelling over the appendix. As it was tensely fluctuating he gave his opinion that the whole trouble was due to the twisting of an ovarian cyst with hæmorrage into its sac. This he thought would account for the low temperature and the fast pulse and signs of collapse which the first doctor had attributed to rupture of an appendiceal abscess into the peritoneum. He told the family that they were both agreed that an operation should be performed immediately, but they differed as to the nature of the trouble. The family said if the doctors did not know what was the matter they must have another opinion, so

[5] Annals of Gynecology, 1903, page 700.

another physician who had seen quite a number of tubal pregnancies operated on at the Samaritan Hospital was called, and on carefully going over the case, he felt satisfied that there was a tubal pregnancy, especially as he elicited the fact which had escaped the others that the last two periods had been different from any others the woman had ever had. It was now the turn of the medical men to ask for a consultation, and as they were all three friends of mine I was selected. After having carefully examined the case by the abdomen and by the vagina, and having heard the history and the argument of each of my friends, I could come to no other conclusion than that they were all three right. This satisfied the family and the patient was removed to the Samaritan, where she was operated on next day. On opening the abdomen I at once came upon the omentum matted to everything in the right lower quadrant. After tying it in many segments and freeing it from the bowels which were also matted, I succeeded in digging out a fallopian tube surrounded with black clotted blood and as large as an orange. Imbedded in it was the vermiform appendix, so deeply, that I did not take the time to dissect it out but cut off the appendix even with the cæcum, and closed the hole in the latter as I would a bullet wound in any other part of the bowel. I afterwards showed this specimen before this Society. On again introducing the hand into the abdomen a nodular irregular mass was felt just below the place from which the tube and appendix had been removed, and with some difficulty a papilloma of the right ovary was extracted which had ruptured at its lower surface and allowed the warty masses to project, thus giving a nodular feeling in the vagaina. Although the oozing was very considerable and the operation lasted over an hour the patient made a good recovery. In this case it was impossible to make an absolutely accurate diagnosis. The tubal pregnancy was the most important factor and the appendicitis the least so, but I have no doubt that the appendix had been diseased for a long time, and that its being imprisoned in the diseased tube interfered with its vermicular movements and gave rise to the colicky pains and digestive disturbances from which the patient had suffered for some time. The result of the operation justified the opinion in which we had all concurred, that no time should be lost in removing the cause of the trouble whatever it might be, for the patient made a splendid recovery and has been in good health since.

In the presence of nephroptosis and appendicitis what should be our course as to operation? Should we fix the kidney and remove the appendix at the same sitting, or should we remove the appendix

first and fix the kidney later, or should we fix the kidney first and remove the appendix later? My own practice has always been, or at least since I had been so taught by experience, to fix the kidney first and at the same sitting remove the appendix. Neither of the operations are dangerous or difficult, and they can both be done in about an hour. Even when there is displacement of the uterus I perform ventro-fixation and even deal with the ovaries and tubes if they are diseased, at the same sitting. In order to save time I make the median incision, so that I can remove the ovaries and tubes and the vermiform appendix and fasten up the uterus in about twenty minutes. If it is necessary to dilate and curette the uterus and repair the cervix and perineum, I do them before fixing the kidney. During the last few months I have several times performed these combined operations with good results and without any mortality, the operations being performed in the following order: 1, dilatation; 2, curetting; 3, amputation of the cervix; 4, repair of the perineum; 5, fixation of the kidney; 6, removal of the appendix; 7, removal of the ovaries and tubes; 8, ventro-fixation. They have generally taken me an hour and twenty minutes. I do not as a rule like to do more at one sitting than I can do in an hour and ten minutes, but I have found all my patients so much in dread of undergoing a second anæsthesia, that I make an effort to accomplish all that is required with one anæsthesia. I have been surprised to see what a small quantity of the A.C.E. mixture has been sufficient to keep the patient under; sometimes only two or three ounces. When a woman has retroversion of the uterus and prolapse of the kidney and appendicitis, it is difficult to recognize the triple nature of the cause of her reflex disturbances; for any one of them is sufficient to explain all her symptoms, for the cure of which, however, all three causes must be remedied.

Dr. Herman Hayd, of Buffalo, says:[6] "We all know that in a given case of pelvic suppuration, it is impossible for us to say that in this case the appendix is adherent to the pelvic mass and is diseased and requires removal, while in another such a complication is not to be expected. I have frequently delivered a large pus tube or ovarian abscess and found that I had torn away or stripped off the peritoneal coat from the appendix, in fact so mutilated the organ that I had to resect it close to the cæcum and close up the bowel opening. This experience was not confined to the right side alone, for sometimes I have found the appendix long and adherent to the left tube or ovary,

[6] American Journal of Obstetrics, November, 1902.

and its coats so infiltrated that I had to resect it close to the bowel attachment."

This to my mind is a strong argument against doing pelvic surgery through the vagina; I can corroborate the above statement of Dr. Herman Hayd's, for I have found the appendix diseased and firmly attached to the left tube, so firmly that it was torn in two in separating it, in one case, and at least twenty times I have found the appendix imbedded in the right tube. It might be disastrous to the patient if when working in the dark, as all vaginal pelvic surgery necessarily must be, one should tear the end of the appendix off without knowing it and thus leave it open in the abdominal cavity; while even if one knew it, the vaginal route could hardly be said to be the best one for the performance of appendectomy.

The difficulty of diagnosing appendicitis from disease of the right tube and ovary, and even from certain diseases of the uterus has been recognized by others.

Dr. Seymour,[7] of Troy, speaking of the difficulty of making these diagnoses, mentions a case of a woman nineteen years of age, who was delivered of a dead child by forceps on the 26th of December, eleven days later she was transferred to his care and almost immediately had a chill and high temperature. The next day the temperature was a hundred and three and a half, and the pulse was a hundred and twenty; marked tenderness under McBurney's point, no dulness, some muscular spasm. Vaginal examination negative, except that the pain was referred to right side. His diagnosis was septic infection of probably the tube and ovary of the right side with a possible involvement of appendix. Immediate operation disclosed absolutely normal tubes and ovaries, no involvement of the appendix, but a sloughing gangrenous fibroid the size of an English walnut, in the right anterior wall of the uterus below the attachment of the round ligament. This was enucleated and after cleaning out its bed it was stitched over, and the gauze drain put in, the patient making good recovery.

Another case was a married woman, age 23, who four months after delivery, was operated upon by a colleague for an abscess of the right iliac fossa, which was supposed to be an appendicular abscess which was evacuated and drained. No appendix was found, so it was not certain whether the abscess was appendicular or tubal. Four months later this incision was still discharging pus, when she came under Dr. Seymour's care at the hospital. She was suffering intense pain in the right iliac fossa, tenderness under McBurney's point, rigidity of the rectus muscle, and an extensive mass immediately beneath the

[7] American Journal of Obstetrics, November, 1902, page 694.

cicatrix of the former operation. He believed that he had to deal with a recrudescence of the appendicular abscess. At 11.30 a.m. her temperature was a hundred and three, and her pulse a hundred and twenty. At 2.30 p.m. her temperature was a hundred and seven, and her pulse a hundred and eighty. She was given a hypodermic of morphine and atropine, and an oblique incision made parallel to the former scar but internal to it, and the belly entered and walled off with gauze. After evacuating several ounces of offensive pus he enucleated a solid suppurating tumour of the right ovary the size of the closed fist, gauze drainage was used and the patient made a good recovery.

The third case was a woman twenty-five years of age, who had always suffered from dysmenorrhœa and was taken with symptoms of appendicitis, and Dr. Seymour was called in to operate. There was a distinct mass in the right iliac fossa and a marked tenderness under McBurney's point. As her pulse and temperature were normal, and as the mass was closely connected with the uterus and it followed closely upon a painful period, he diagnosed an ovarian tumour with a twisted pedicle, which was removed and the patient recovered.

Henry P. Newman, of Chicago, says:[8] "To-day the diagnosis of appendicitis is easy and sometimes made by the laity. But occasionally, even now the family doctor does not recognize the condition, chiefly because it is associated with some pelvic disease."

He mentions the following case: "A young girl of about sixteen, healthy in appearance, but nervous and slightly anæmic, suffered from recurrent attacks of pain and soreness in the lower part of the abdomen; attacks associated with her menstrual periods; lasting but a few days; hence regarded as of ovarian or uterine origin. Careful examination showed no pelvic lesion, but trouble at the appendix. Some months later the elongated inflamed appendix was removed, being found attached to the right ovary, though there was no pelvic lesion. Prompt and complete relief followed the operation.

Rostovzeff, of St. Petersburg, insists on great care in examining the entire pelvic field at the time of operating; in salpingitis look for an inflamed appendix, in appendicitis look for disease of the adnexa. The same author calls attention to the intensity of the infection caused by pus from an abscess in the appendix as compared with that from pyosalpinx. In his experience, general peritonitis due to appendicitis is invariably fatal, whereas a number of cases of general peritonitis originating in the genital organs terminated favourably.

[8] American Journal of Surgery and Gynecology, January, 1904, page 101.

As the inflamed end of the appendix may be situated even in the left side of the pelvis, the mistaking of it for disease of the tubes is quite excusable. A number of authors cite instances of large collections of pus low in the pelvis, due to a diseased appendix which was evacuated through the rectum or vagina. I am opposed to the vaginal method of dealing with pus in the pelvis, and one of my reasons is that if we operate by the abdominal incision we can deal with any condition that may be present, but if, when operating by the vaginal incision, we find that the appendix requires removal it would be exceedingly difficult to do it by the vagina.

Deaver takes the same view and believes in operating by the abdomen. He says the symptoms of pyosalpinx due to appendicitis are those of appendicitis in the pelvis, with dysmenorrhœa and irregular menstruation added.

Cumston, of Boston, has had several cases in which concomitant symptoms of appendicitis and tubo-ovarian abscess made diagnosis difficult. In a number of others lesions of the adnexa were taken for appendicitis.

Peterson, of Ann Arbor, reports eighty-seven cases of abdominal section, in nearly all of which the appendix has been examined as a routine procedure. At first it was only examined, but was not removed unless grossly diseased. Later it was removed as a routine practice, whether it was diseased or not, whenever the condition of the patient warranted it. In his last thirty-four consecutive cases the appendix was thus removed, and in just half the number it was found diseased.

Newman from the work of others and from his own observation comes to the following conclusion: 1st. the abdomen should be examined in all important pelvic cases and vice versa; 2nd, functional disturbances in the pelvis will produce disturbance in the neighbouring abdominal viscera; 3rd, in opening the abdomen for pelvic disease the appendix should always be examined; 4th, if catarrhal, adherent or containing concretions, it should be removed, 5th, it is not sufficient to break up or separate adhesions of an attached appendix; 6th, as the macroscopic examination of the appendix is not always conclusive its removal or "prophylactic appendectomy," when the abdomen is already open, should be determined by the best judgment of the surgeon and the condition of the patient in each individual case.

Kelly states that in a hundred cases of removal of pus tubes and ovaries, he found the appendix implicated in twenty-seven of them, and I could cite many others to show that appendicitis and pelvic

diseases very often go together and should be treated accordingly by removal in the majority of cases.

One of the most difficult conditions to diagnose correctly is that of a suppurating appendix bursting into the ureter or bladder. Of the latter result of an appendicitis there are a great many cases on record, one of them being that of a medical friend of the writer who was treated for a year for cystitis, when the removal of the appendix would have cured him in a few days. The rupture of an appendical abscess into the ureter is one of the most puzzling things we can meet with, if we do not suspect the real condition. I only know of one such recorded case, and the patient was treated for a year for cystitis and then for pyelitis, and finally had first one kidney and then the other explored without any disease being found, until at last the appendix was removed and then a complete cure promptly followed. We know that appendical abscesses burst through into the pleura and from there ulcerate through into the lungs, the patient coughing up quantities of pus; it may also burst into the bowels, the fallopian tubes, ureters and bladder, so that I may sound a useful warning by stating that whenever a patient is passing pus, either upwards or downwards, and we don't know where it is coming from, we should think of the vermiform appendix. Just as a number of my friends and I have had the pleasure of saving twenty-seven lives of women who were found in a state of collapse from internal hæmorrhage simply by thinking of tubal pregnancy, so do I believe that many lives and much suffering can be saved simply by thinking of appendicitis in every case of abdominal or pelvic disease.

I trust that by calling your attention to the co-existence of displacement of the kidney with appendicitis and diseases of the pelvic organs, the diagnosis of many obscure cases may be cleared up and ultimately be confirmed by operations promptly undertaken, which will as promptly restore the patient to perfect health.

MALIGNANT ENDOCARDITIS FROM GONOCOCCUS INFECTION.

BY

F. G. FINLEY, M.D., AND JOHN McCRAE, M.D.

J. K., aet 23, a sailor, was admitted to the Montreal General Hospital on October 10th, and was first placed under Dr. Hutchison on the surgical side, owing to certain syphilitic manifestations. He complained of sore throat, chilly feelings and pains in the legs.

He has followed the sea since the age of 13. Three years ago he had malaria for five weeks in Calcutta, the symptoms being chills and

fever. On January 28th, 1903, he first noticed a gonorrhœal discharge, and was confined to hospital in Aden for five weeks. Twelve days after his discharge he noticed a sore on the under surface of the penis, which took seven weeks to heal. He had a sore throat about the middle of March, which continued till the first week in July, and there was a cutaneous eruption on the legs and back of the neck during the latter part of this month. Mercurial pills were used from the appearance of the primary sore.

The present illness began on board ship the night he left Manchester, September 22, when he was awakened by a chill, lasting a

Photograph of heart of Gonorrhœal Endocarditis, showing vegetations on aortic cusps.

short time and followed by sweating. These symptoms were accompanied by severe, agonizing pains in both shins, extending from the knees to the toes on front of the legs, and lasting all night. He struggled on deck next morning, but was too ill to work and was sent to bed. Pain continued with great severity in the legs, especially the right and in the right hand for a week. He first of all stated that the legs and hands were paralyzed, but careful questioning elicited the fact that he could move the limbs, but dreaded to do so on account of the increase of pain. Four days after the onset of the first pains the joints of left fingers and hand became very sore, but there was no evidence that there was any swelling.

During his illness on board ship his temperature was very high, and one or two severe chills occurred daily. Vomiting was occasionally present after a chill, and pain in the back and left side of the head.

On reaching Quebec he was up for a day or two, but pains in the feet and ankles prevented him from walking. An eruption was present on the abdomen and arms, and he had taken potassium iodide on board ship.

On October 10th, chills recurred and he was sent to hospital. The eruption was regarded as syphilitic and he was admitted to the surgical ward under Dr. Hutchison. Here he was observed to have a papular and pustular eruption on the abdomen and thighs; the superficial glands were enlarged; there were a few sonorous râles in the lungs; the cardiac dulness extended to the nipple and the second sound was muffled, but there was no murmur. The pulse was large and dicrotic, 98 to 112; the spleen was enlarged and felt below the costal border. The tonsils were enlarged and the pharynx reddened; the tongue was clean. There was no urethral discharge. The temperature 98 4-5 to 100 4-5 on day of admission. The urine was negative. There were four rigors, with rises of temperature to 104 and 105 2-5 during the ten days he remained in the surgical ward. He was treated with mercurial inunctions, potassium iodide and quinine gr.v.t.i.d. during this period. On October 19th, one of us saw him and found a musical diastolic murmur at the base of the heart, and a diagnosis of malignant endocarditis was made. He was then transferred to the medical side.

His condition was then noted as follows: A well nourished young man, face flushed. The skin is hot and dry, the subcutaneous fat scanty, and the muscles large and firm. The colour of the finger nails and mucous membranes is normal. The post-cervical, epitrochlear, femoral and inguinal glands are enlarged and hard. A few rhonchi are heard in the lungs.

The cardiac impulse is feeble, rather indistinct, and in its normal site. Relative dulness of normal size. At the apex the sounds are distant and feeble, especially the first which is almost inaudible. At the base both sounds are extremely ill heard; a soft musical diastolic murmur, heard loudest about the aortic and pulmonary regions, and transmitted up to the episternal notch and down over the whole sternum. The pulse is rather large, soft, slightly collapsing and visible at the wrist. No capillary pulsation.

The lips are dry, the tongue is slightly coated and dry in the centre. The right tonsil presents a few small white patches, and an elongated patch in front of the right faucial pillar. The abdomen is somewhat

tense. The spleen is palpable for two fingers' breadth below the costal border. The liver dulness extends one finger's breadth below the costal border, but is not palpable.

The lower extremities show no evidence of paralysis and are not tender. The knee jerks are increased, no ankle clonus, plantar reflexes present. There is no disturbance in the functions of the bladder or rectum and no decubitus. A few erythematous macular spots are present on the outer extensor surfaces of the forearms and the left flanks. The testes are normal; a pigmented area is present on the glans penis inside the frænum. There is no urethral discharge. The urine is acid; s.g. 1023, contains neither albumen nor sugar. There are a few granular casts and pus cells, but no gonococci on staining.

The temperature was irregular, with frequent elevations to 104 and 105, some of these rises being accompanied by severe rigors and sweating. The pulse ranged from 82 to 108 during the earlier part of his illness, and gradually increased in rate to 100 to 132.

The heart showed slight enlargement, and the diastolic murmur presented a series of changes. Thus on October 26th its musical character was lost, and on the following day a short systolic murmur appeared at the aorta. On November 2nd the diastolic murmur had a low pitched musical character, and on November 10th this musical character again disappeared.

Nothing developed in the lungs beyond a few rhonchi.

On several occasions erythematous blushes appeared on the skin. A slight yellow tinge of skin and conjunctivæ was noted on November 15th, and on the 16th, the day of death, an abundant miliary petechial eruption on the abdomen and back, and to a less extent on the thorax and limbs.

There were severe pains lasting several days at a time, in the heels, wrist, ankles and along the front of the tibiæ, and although very tender none of these areas presented any swelling.

The parotid gland was slightly enlarged and tender on October 25th.

Loss of flesh was considerable; emaciation and anæmia were very noticeable. The following were the blood counts:—

October 19.—W.b.c. 19,600.

October 26.—R.b.c. 4,560,000, w.b.c. 19,600, Hg. 60 per cent.

November 9.—R.b.c. 3,400,000, w.b.c 36,200, Hg. 55 per cent.

Three cultures taken by Dr. McCrae proved sterile.

There was vomiting for 48 hours from October 10th. The urine constantly contained granular casts, but never showed albumen.

An ophthalmoscopic examination by Dr. Stirling showed marked ocular pulsation, and hazy reddish discs.

Death took place on November 16th, the total duration of the fatal illness being 55 days.

The autopsy was performed 36 hours after death, and the following facts bearing upon the case may be noted.

External Examination.—The entire body, front and back, and all the limbs dotted by small, one to three mm. diameter, purple petechiæ; the external genitals show no scar or signs of urethral discharge. The pericardium contained one ounce of clear fluid of icteroid tint, which showed no micro-organisms upon smears.

Heart.—Weight 370 grm.; all chambers are moderately and apparently uniformly, dilated, and the slight degree of hypertrophy is also distributed uniformly; the left ventricle contains a small yellow ball thrombus. The muscle is pale, soft and slightly mottled, but sections fail to show any histological change of note. All valves are healthy save the aortic, upon the free edges of which are seen irregular vegetations of firm consistence, and but slightly friable. The anterior cusp is most affected, and the vegetation measures roughly 2 x 1.5 x .75 cm. in bulk; on the other two cusps appear much smaller similar vegetations. No loss of valve substance can be seen to have occurred. Smears from all parts of these vegetations show pus cells, some disorganized, crowded by diplococci, many of which can be seen to be definitely crescent-shaped, negative to Gram's stain. Parts of the field bear an exact resemblance to a smear made from urethral pus in gonorrhœa. The coronary arteries and the base of the aorta show a slight degree of arterio-sclerosis.

Lungs.—There is considerable œdema and evidence of recent aspiration of vomitus in the bronchi and bronchioles.

Spleen.—This organ weighed 730 grms, was much enlarged, the capsule being tense, the tissue pulpy, soft and showing many infracts.

The kidneys indicated moderate parenchymatous nephritis; the urethra showed a slight diffuse reddening, and gonococci were found in smears from its lining membrane.

Cultures taken at autopsy from the heart blood and from the spleen were negative; from the heart valve cultures showed diplococci, positive to Gram's and bacillus pyocyaneus.

Attempts to grow the gonococci failed throughout, the heart valve cultures showing abundant growth of the diplococci, positive to Gram's and of bacillus pyocyaneus. Sections of the vegetation showed a mass of fibrin, partly organized, with localized infiltrations of leucocytes. Sections stained by Gram's showed many diplococci, but by no method of staining (mainly carbol-thionin and decolorization methods) could the gonococci be distinguished in the tissues.

The complete anatomical diagnosis is as follows: "Acute vegetative aortic endocarditis (gonococcus), hypertrophy and dilation of heart, moderate arterio-sclerosis; acute catarrhal bronchitis (aspiration), œdema of lungs; acute splenitis; fatty infiltration of liver; chronic parenchymatous nephritis, with cyst of kidney; urethritis (gonococcus)."

The diagnosis of malignant endocarditis was readily made from the septic character of the symptoms associated with a diastolic aortic murmur which developed under observation. The course of the disease fully bore out this diagnosis, and it was also favoured by the frequent changes in character of the murmur. The possibility of a gonorrhœal origin was considered during life, but was not thought probable. No evidence of gonorrhœa, except a few pus cells in the urine, and no gonococci were discovered. The long period of time, eight months, elapsing between the onsets of the two maladies was also regarded as rendering this view improbable.

In Thayer and Lazear's paper *Journ. of Exp. Med.*, 1899, the writers however, state that there is no special relation with regard to the time of onset and the attack of urethritis. In some instances endocarditis comes on almost immediately after the onset, or there may be an interval of weeks and months. In looking over the 32 cases collected by these writers, so far as dates are given, in the great majority of instances endocarditis set in within a few weeks, and only in three or four instances did it appear at an interval of several months. Although the majority of the cases are accompanied by arthritis, this feature is by no means constant; and in the present instance arthralgic pains were at times prominent, but there was never any articular swelling.

It is certainly remarkable that a gonorrhœa treated in hospital for five weeks, and apparently completely cured, should be the origin of a fatal endocarditis after such a long period had elapsed. The discovery of gonococci in the urethral mucosa after death, identical with those in the cardiac valve, is sufficient evidence of the origin of the fatal malady. That the organisms were gonococci is shown by their characteristic biscuit shape and intracellular character; by their decolorization with Gram's and by their failure to grow on ordinary media.

One previous case has been exhibited to this society (*Mont. Med. Jr.* XIX., p. 702). In 1890 the late Dr. Wyatt Johnston showed a heart, which is still preserved in the McGill Museum, in which he found diplococci, resembling gonococci in shape and size. They were negative to Gram's, and failed to grow in agar-agar. They occurred in small groups, each pair of cocci being slightly separated from the

neighbouring ones, but they did not lie in the substance of the cells. No gonococci were found in the urethral mucosa, although the patient had had several attacks of gonorrhœa, and two attacks of gonorrhœal rheumatism. Dr. Johnston did not believe the proof of the organisms being gonococci was conclusive, owing to the absence of cultures, but with the light thrown on this subject by numerous cases subsequently recorded, there can be little doubt that the bacteria were gonococci.

DOUBLE TUBERCULOUS PYO-NEPHROSIS WITH CALCULUS.

BY

J. ALEX. HUTCHISON, M.D., AND JOHN McCRAE, M.D.

T. A., 45 years of age, was admitted to the Montreal General Hospital on October 26th, 1903. He was born in Newfoundland and had resided in Montreal for the past fifteen years.

Twenty years ago the trouble began with pain in the left loin, the pain being paroxysmal in character, and referred down the leg, with frequency of micturition followed by an opaque discharge usually blood stained. The condition was sufficient to require him to take to his bed for a few days. There was vomiting and nausea. The attacks recurred at irregular intervals; at one time a period of freedom lasted nearly eight years.

For the past few years the attacks have recurred at intervals of three months, and for the past six months there has been an attack each month, and urine has been blood-stained during this latter period.

Several small stones have been passed during the last year, some of them accompanied by very severe pain referred down the left thigh and scrotum. There has been nausea, but no vomiting until the last attack before coming under observation.

During the more recent attacks he has been under medical observation, and an elevation of temperature has been noted.

On admission, patient was found to be markedly emaciated and suffering from septicæmia. In attempting to palpate the left kidney it did not appear to be enlarged, but there was in its neighbourhood some resistance and tenderness on deep pressure.

The specific gravity of the urine was 1010, alkaline, albumen present, 2 grams to the litre, with pus in abundance.

On October 29th, 1903, under ether anæsthesia, an oblique left lumbar incision was made and the kidney explored. The perinephritic fat appeared healthy, the kidney seemed larger than normal, the capsule was punctured and the kidney opened at its convex border.

Read before the Montreal Medico-Chirurgical Society, 4th March, 1904.

A small fairly smooth calculus one cm. in diameter was found. No pus, but some blood-clot, and a large quantity of calcareous material was found in a much dilated pelvis. There appeared to be a large mass immediately above and closely adherent to the upper part of the kidney, which did not communicate with the pelvis.

The wound was packed with gauze, a large rubber drain being left.

Patient recovered from the operation well, but did not improve. He died on November 9th, or eleven days after operation, from septicæmia.

Pathological Report by Dr. McCrae.

Left kidney consists of two parts, probably a congenital condition, the lower of which has been incised and explored, and a stone removed from it at operation. The pelves of both parts are dilated and contain pus and blood-stained material; lying ventrally to the region between these two is a large mass 12 cm. in diameter, with vessels running over the peritoneum, which is adherent to its surface, on section, the mass is much broken down and has pus in its substance. The kidney substance is nowhere more than 15 cm. in diameter, and the pelvis contains purulent fluid: there are small abscesses in the perinephric tissues at the lower end of the kidney.

The right kidney is large, the tissue thin, the organ fluctuating and contains a large phosphatic calculus 4 by 3 by 3 cm. in size; there is much pus, much phosphatic debris and the wall is thickened. The ureters are dilated. The bladder contains purulent urine. All cultures are mixed. On microscopic section the tumour is found to be tubercular.

As bearing on the primary focus of the disease, the glands of the right lung were found calcified.

CHILDBIRTH COMPLICATED WITH ECLAMPSIA.

BY

J. J. Ross, M.D.; W. W. Chipman, M.D., and J. R. Goodall, M.D.

Dr. Ross:—During the past year I have had in my practice two cases of multiple pregnancy associated with renal symptoms. The one, is the case which we record this evening wherein all prophylactic treatment had been neglected. In the other, the treatment advised was carried out systematically, and the patient was safely delivered at term of living children and has suffered no subsequent complications.

During the early part of September I was consulted by Mrs. G., aged

Read before the Montreal Medico-Chirurgical Society, 19th February, 1904.

24 years, who requested me to attend her during her confinement. She was apparently a strong, muscular, well nourished woman, claims never to have been ill beyond a slight attack of influenza a year ago. Mother died from consumption; father living and healthy; three sisters and one brother living and healthy; one brother died in early childhood.

She married in November, 1902, having previously worked as a laundress. She became pregnant about the month of April, 1903, after which she had a great deal of gastric disturbance, vomiting frequently during the day and occasionally during the night. There was frequency and urgency of micturition day and night, which I interpreted as the usual pressure or reflex symptoms.

The patient engaged me the first week of September, which was then the 5th month of pregnancy. I examined her urine then, but found no albumen. I did not see her again until November 2nd, when she was entering the 8th month. I found her then with considerable œdema of the lower extremities, with some slight swelling of the hands and fulness of the face, which she claims came on gradually after my first visit. I examined a specimen of urine, but found no albumen. I called next day and put her on liquid diet, with daily morning salines and requested her to lie down as much as possible during the day. I left orders with her to advise me at once if she had headache or any peculiarity about her eyesight. After keeping up the treatment for one or two days she discontinued it, declaring herself to feel entirely well. I did not go back, but felt that she would give me future trouble.

On the night of the 16th November, 14 days after seeing her, being the 8th month of pregnancy, the husband came for me by night, stating that he thought his wife had taken a fit. I was not at home at the time, but when I returned between 12.30 and 1 a.m. he was back, stating that his wife had taken several fits. Suspecting they were convulsions I immediately telephoned for the ambulance. When I reached her, 15 minutes afterwards, I found her actually in a convulsion, which I was told was the eighth. I gave her half a grain of morphia as soon as possible, and with inexperienced assistance began the administration of chloroform. Upon examining, I found the os dilated the size of a fifty cent piece, with the breech well engaged. Without waiting, I immediately converted it into a foot presentation. By this time Dr. Goodall arrived with the ambulance, when by his assistance I delivered the arms and aftercoming head. On examining further we discovered we had to do with a multiple pregnancy with the head presenting. Without taking time to determine the position I applied the forceps, and after considerable traction discovered I was attempting to deliver a child "face-to-pubes." Relaxing and putting

the patient in the lithotomy position delivery was accomplished fairly easily, and with comparatively little laceration. The after resuscitation of the infants which were slightly apnœic and the lacerations repaired, they were all taken to the hospital, where the mother is still under treatment. The children who are both males were exceptionally well nourished, they throve and are now strong and well grown.

Dr. Goodall:—Having heard the early history of Mrs. G. by Dr. Ross, let me invite your attention to a few remarks upon the condition of the patient when admitted to the Royal Victoria Hospital, also a few words upon the subsequent course of events.

Shortly after delivery mother and children were transferred to the hospital. In the ambulance she made constant endeavours to sit up, and a constant low muttering delirium was present and she had frequent vomiting.

Her condition upon being admitted was as follows: Arrived at hospital 4.15 a.m. Patient is a woman of very large frame, very well nourished and of fair complexion. She presented a general appearance strikingly suggestive of grave renal disease, face and eyelids markedly œdematous, as were also the dependent parts of the body. Feet and legs greatly swollen, hard, as if œdema had geen present for some considerable time. She was in a semiunconscious state with low muttering delirium; she had bloody froth about the mouth, tongue slightly bitten; no evidences of paralysis present. Pulse 84, temperature 97, respiration 22. Fifteen ounces of urine, somewhat turbid, were withdrawn. Upon examination this was found to have the following characters: acid, 1015, almost solidified on boiling, no sugar. Blood casts, finely and coarsely granular casts very numerous, urea, eight grains per ounce. The uterus was well contracted, and other organs presented nothing abnormal on physical examination.

Consciousness slowly returned; patient was given an ounce of magnesia sulphate by Hey's method, and this was repeated in one hour. She seemed to improve slowly, when at 8 a.m. she was seized with a violent prolonged convulsion. This was preceded by several efforts at vomiting, the last of which was productive of a large amount of brown fluid. An enema proved very effective, and at 9 a.m. she was put into the first hot pack, during which she had a second severe spasm; pulse not so bounding, but much more rapid. Patient did not regain consciousness between seizures. Large submammary saline injection of 35 ounces was given. At eleven a.m. there occurred a very violent seizure and a similar one at 1 o'clock, one-fourth grain of morphia was given hypodermically twice during these seizures. Packs were

repeated every three hours, and the response to them was quite beyond the ordinary result achieved. Heart grew quite rapid, 110, and sounds much weaker. Respirations 20, patient quite unconscious.

Owing to the inability to control the spasms and owing also to the rapidity of the pulse rate, it was deemed advisable to begin use of veratrum viride. Fifteen minims were given hypodermically every half-hour for a few doses, and subsequently every hour. Patient was soon under the influence, for in eight hours the pulse rate fell from 110 to 50. The magnesia sulphate was continued as consciousness returned, and by five p.m. the bowels had acted very freely. Lochia was copious. Submammary salines and free purgation and hot packs every four hours characterized the subsequent course of the treatment.

It will be interesting to note here the effect of the veratrum viride upon the respiratory system. When patient had 90 minims drops of the drug the pulse rate fell to 50, and the respirations became very irregular and very slow. At times there would be but eight to the minute, and they consisted of two deep respiratory efforts and a long period of apnœa, and the throat had to be frequently swabbed to remove a thick, tenacious, ropy, mucous, secretion, which greatly impeded the normal functioning.

During the first 24 hours patient passed 104 ounces of urine, owing to the large amount of subcutaneous salines administered; and the effect upon the total daily elimination is well represented on the chart diagramatically, as is also the fall in the amount of albumen per litre owing to this active diuresis and dilution. During the subsequent two days nothing of importance occurred; the excretory organs were functioning very well. Total amount of urea was markedly increased and the albumen diminished. Perspirations were drenching in character and the heart was quite regular, as were also the respirations, and by November 19th her face was free from œdema, though there still remained considerable anasarca of the legs and back. Until November 19th patient had had packs every four hours, submammary salines in large quantity and free purgation with magnesia sulphate and calomel. The total excretion of urine during November 19th was 140 ounces. It was considered advisable to stop the packs, and patient it was thought was well on the way to recovery.

Her general condition seemed to improve with equal rapidity during November 20th, and my bedside notes state that she is mentally quite bright and frequently asks about her children and her husband. She has no headache and no loss of vision.

On November 21st, patient complained of severe temporal headache which comes and goes, and her general condition suggests that she has

not improved in the last 24 hours. Urine is slightly diminished in amount and she is not thirsty, nor does she take her nourishment as previously. On November 22nd, patient complains of severe temporal headache, nausea and vomiting and of dimness of the field of vision. Eyelids somewhat puffy, and œdema of lower extremities has shown no diminution during the last 24 hours. Patient's mental state shows more clearly the remarkable change coming over her. She is dull, lethargic and mentation is slow, and the receptive centres are much dulled. She must be spoken to very loudly to get her attention, and her central nervous system responds even then but for a moment to very strong afferent stimuli.

At 6.30 p.m., without further premonition patient was suddenly seized with a severe convulsion, in fact, one of the most violent since the onset of her illness, and in twenty minutes she had had four severe seizures. One had hardly passed off before she was thrown into another. She was controlled at last by chloroform inasmuch as one-quarter grain of morphia, even when repeated failed to exert any influence. Free purging, packs and salines, subcutaneously administered, were again resorted too, and patient responded very freely to the packs. Involuntary stools and urination occurred during and after the spasm.

Previous to the attack the pulse was full, bounding and only 60 to the minute, and the heart's action varied but little even after the four attacks had passed off. The respirations had been somewhat irregular during the whole of the day, and after the first seizure there would be two or three rapid respiratory movements, followed by a period of apnœa varying in duration from 35 to 45 seconds, and there was thick mucous in the throat. In view of the slow pulse and impeded respiration it was not deemed advisable to resort to veratrum viride.

I stated above, that, without further premonition the convulsive seizure set in; now let me enumerate the premonitory signs. They were: Headache, nausea, vomiting, abnormally slow receptivity and cerebration, dimness of vision, arrest of the disappearance of œdema from dependent parts of body, and appearance of it in eyelids, diminution in excretion of urine, diminution in specific gravity of urine, diminution in total output or urea as appears from the diagram, and increase in amount of albumen and casts.

The unconsciousness and stertorous breathing lasted well on into the following day, when consciousness slowly returned. During November 23rd she had occasional vomiting, complained of severe headaches and of inability to see. She was very dull throughout the day, but on the next morning at 2 a.m., a very remarkable change occurred in the

mental state of the patient. As I entered the room the contrast of that which I then saw in the patient, with the condition present two hours previously could not have been greater. The patient rose in bed, watched my every movement, would turn over in bed so as not to lose sight of anyone in the room. All her movements and actions bespoke suspicion. Palpebral fissures were wide, pupils widely dilated and eyes staring, in a word, from a condition of hebetude and lethargy with slow receptivity and mentation, together with almost complete apathy, she was suddenly changed to a state of alertness, vivacity, restlessness and sleeplessness, she was most of the time apparently deeply absorbed. Her speech was quick and jerky, a contrast to her slow normal staccato speech. She frequently asks what is the object of those about her.

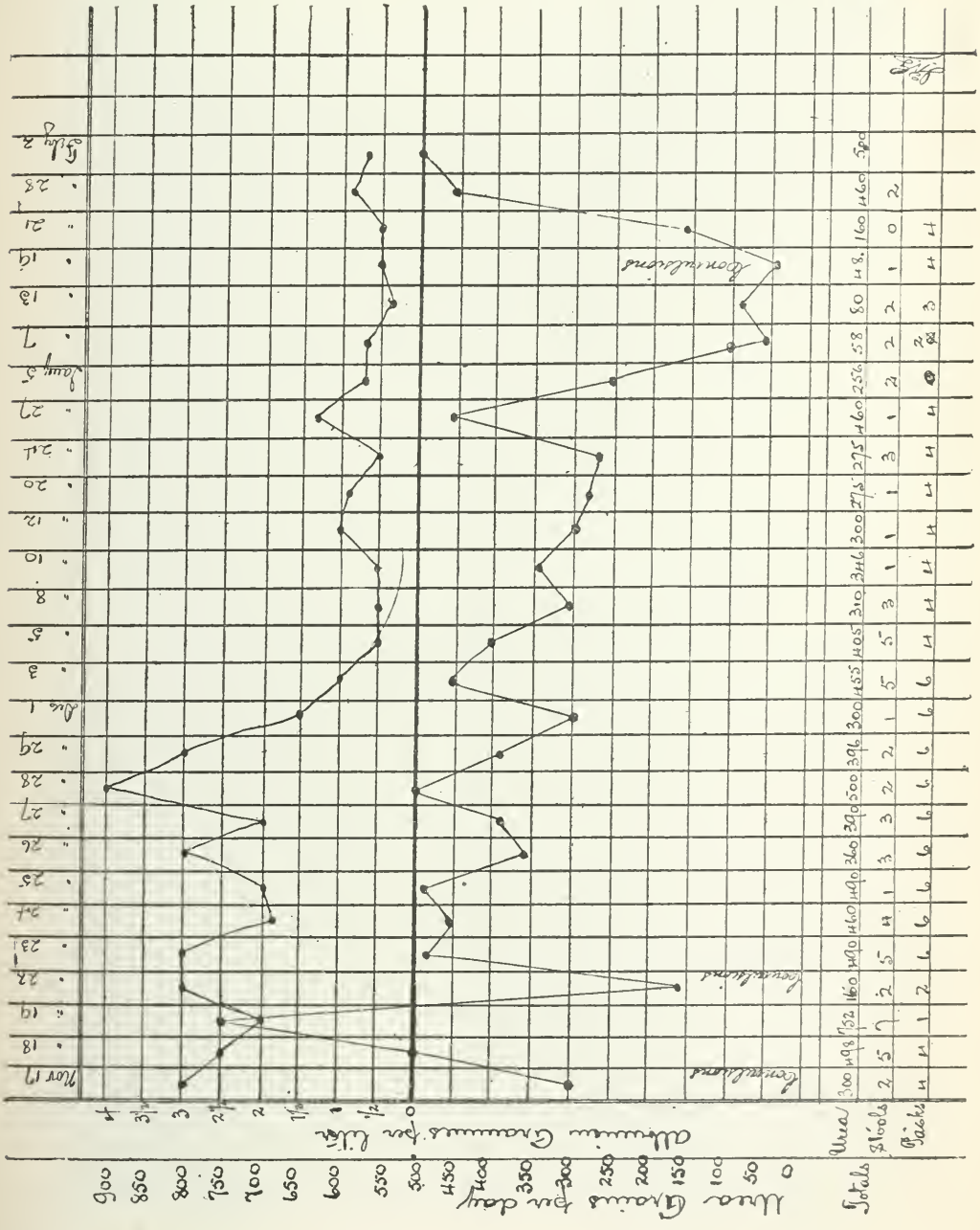
During the day the mental state showed but slight change, but the amount of urea became greatly increased and the œdema showed signs of decrease. During that evening patient had hallucinations of sight and illusions of hearing. Frequent involuntary stools and micturition occurred.

On November 25th, patient's mental state shows slight improvement. Her general condition also shows improvement. She responds freely to the packs, and the total output of urea is increasing, as is also total excretion of urine. Patient made rapid progress during the succeeding day, so much so, that on November 27th the special nurse was discharged. Ten minutes after her departure a heavy fall was heard, when the nurse rushed to ascertain the cause, she found patient sitting up erect in bed endeavouring to disentangle herself from among the blankets, and in her struggles had thrown a hot water can from off the bed. She was quite irrational and fretful and frequently had illusions of hearing.

Throughout the 28th there was but little change, she was always preternaturally active both mentally and physically; this continued for some days and gradually disappeared. The subsequent course of events may be summed up in a few words. She improved slowly in every way, until the daily output of solids and of urea became about normal for one on such low diet. The œdema totally disappeared, and mentally she was quite recovered, but her condition became stationary, and in that state she still had one-half gramme of albumen to the litre and numerous finely and coarsely granular casts. Dr. Hamilton was asked to undertake the further care of the case, and on December 15th, 28 days after admission, she was transferred to the medical side.

A short note on the subsequent course of events will probably not be without interest. She ran an uninterrupted course for almost one month, when she developed acute tonsilitis from which she quickly recovered.

Her improvement had reached such a degree on January 18th, that she had ceased to be purged so violently as previously, packs had been stopped and she was up and about the ward. On January 20, having been up and well on the previous day, she complained of headache



after her breakfast. She soon became nauseated and some vomiting followed. She also complained of dimness of vision and of profound weakness. At 11 a.m. violent convulsion came on very suddenly, and she was immediately put into a hot pack, during which procedure she had a second seizure. She was purged shortly afterwards with magnesia sulphate and pilocarpine was given hypodermically. She soon regained consciousness and she suffered from violent headaches.

Let us now for a moment turn our attention to the prodromata of this sudden onset. Were there, when lacking in symptomatology, sufficient evidences on physical examination to show that she was growing progressively worse in spite of the fact that she felt quite well? A glance at the chart will show that there was a steady but rapid decline in the amount of urea excreted, or to be more exact—a decline in nitrogenous products even more marked than was shown in the first attack. It will also prove of interest as showing the relative importances of urea and albumen estimations, to know that the amount of albumen was not appreciably altered.

She improved slowly for a few days, then had another convulsion during and after which she was energetically treated. Since then she has slowly improved, and though she is now, from general appearances, fit to sit up, yet the urine shows a decided trace of albumen with finely and coarsely granular casts, and the amount of urine excreted is small. She had had irreparable damage done to the renal tissues, and the case has developed into one of chronic parenchymatous nephritis. In view of these facts, it has been proposed that she submit to operation for decapsulation of the kidneys. The patient and her husband have consented, and it is but a matter of time when this will be undertaken, and I sincerely hope that the surgeon may make a further report of the case while she is under his charge.

In conclusion, allow me to state that our reasons for presenting this case are manifold. Firstly, we think it of exceptional interest owing to the numerous complications, namely, twin pregnancy in a primipara, the numerous mental changes and the relapses into convulsions. Secondly, we present the chart of urinalysis in the endeavour to find a more certain premonitory sign of impending eclamptic seizures. We do not argue, owing to the rapid fall in nitrogenous products preceding an attack, that they are causal factors, but that it is more reliable than is albumen estimation. The accompanying chart shows this rapid fall of nitrogenous excretion preceding the attacks. The convulsive seizures correspond in time to the rapid decline in nitrogenous excretion.

Dr. Chipman:—There need be no apology for bringing to your

attention the report of this case this evening. Eclampsia is by no means a rare condition and its mortality continues to be, as always, in the neighbourhood of 25 per cent. Our object in bringing this paper before you is to give a carefully prepared clinical report of a case which we have had under our care in the Royal Victoria Hospital for three full months. Our object is merely to give an accurate and detailed clinical report and to add this to the cases which in the literature of the subject have been reported. As you will see from the chart shown by Dr. Goodall, daily examinations of the urine have been made for a period of some weeks, special attention being paid to the secretion of urea and the amount of albumin. We have taken the urea as an index of the total solids excreted by the kidneys. My own feeling is that more profit is to be derived from the careful study of such cases than from the formulating of any new theories upon the subject and the great need of the future is for further detailed clinical observation.

Eclampsia, as Zweifel has said, is a disease of theories, and I do not propose to-night to go at all into the numerous and varied theories which have been advanced since the early days of the last century, when Roger and Lever first demonstrated the presence of albumin in the urine. As you all know the old clinical theory is now discarded and the toxæmic theory of one kind or another holds sway. I wish merely to speak of the theories that have been advanced during the last ten years, and chiefly those of (1) Veit and Bandler, (2) Oliphant Nicholson and (3) Stroganoff.

1. Veit, as many of you are aware, chooses to regard the placenta as a secreting organ; certain enzymes are thrown off from the placenta together with cellular elements, trophoblastic, either from the syncytium or Langhans layer, and these are carried into the maternal blood streams and may, under certain conditions, give rise to a condition of toxæmia and eclampsia.

2. Oliphant Nicholson regards the thyroid gland as an important organ in this connection. A deficient secretion from the thyroid gland means that the proteid substances in their metabolism are not carried to the stage of urea formation; the result is the formation of certain "half-way" products which accumulate in the mother's blood, and may give rise to a toxæmia. This substance Nicholson calls iridothyrin, and claims to have used it beneficially both as a prophylactic and therapeutic agent in cases of eclampsia, claiming that this iridothyrin ensures the complete metabolism of all products.

3. Stroganoff regards eclampsia as an infective fever, giving as his reasons (a) that there is fever (b) one attack confers an immunity, (c) it is more frequent in primipara, and often seems to occur in

epidemics, being also more frequent in certain districts. In this connection I may mention an experience of which I was made aware when a resident in the Maternity Hospital, Edinburgh. During one month, namely December, six cases of eclampsia were brought into the hospital; these all came from one district, Stockbridge, a small thinly populated suburb, and the singular thing is that this same district has furnished to the hospital as many cases of eclampsia for a period of years, as the rest of the City of Edinburgh and suburbs put together.

In the pathology of eclampsia we find also little exact knowledge and much that is conjectural. The need here also is for careful and accurate observation in all cases that come to autopsy. Early in the beginning of the present century the kidneys were the organs supposed to be chiefly at fault. This view was gradually abandoned when it became known that only a small proportion of women with chronic nephritis suffered from eclampsia, and again, that in eclampsia the urine does not always contain albumin. The pathological findings which are generally met with are as follows:—

Kidney:—In the kidney there is often only a slight change; usually they are those of an acute nephritis, the kidney being large, soft and congested; there is hyperæmia and often marked death of the epithelium, the changes being the coagulative necroses of any infective disease. The epithelium of the tubules and the vessels immediately outside them seem to be the structures chiefly affected.

Liver:—Schmorl has done a great deal of valuable work upon the liver. The changes consist of minute hæmorrhages, while the liver on section shows reddish or whittish areas which are visible to the naked eye. These areas are necrotic, the necrosis being caused by thrombi in the small liver vessels. Larger hæmorrhages may occur under the capsule.

Brain:—In the brain there is usually œdema with flattening of the convolutions; punctiform hæmorrhages in the cortex and basal ganglia are frequently found, and sometimes larger hæmorrhages. This represents, in short, the changes which are found in a patient previously healthy who has died from eclampsia.

The present status of the question may be summed up in these words: "The clinical history and anatomical findings afford presumptive evidence that the disease, eclampsia, is due to the circulation of some poisonous substance in the blood, which gives rise to thrombi in many of the smaller vessels with consequent degenerative and necrotic changes in the various organs. But at the same time we are absolutely ignorant concerning the nature of the offending substance, and, besides, the experimental evidence thus far adduced in favor of such an etiological factor is not convincing."

We have nothing new to present in the way of treatment. Morphia was used in this case in small doses, as you have heard, but I confess to employing it always with hesitation. It seems at times necessary to give a dose of morphia, as it certainly exercises a quieting influence upon the patient, but my own feeling is that the less morphia is given the better. We used largely subcutaneous saline injections, placing beneath the skin as much as two or three pints at a time. This acts very soon in most cases as a powerful diuretic, and at the same time must dilute the toxine whatever it may be which is circulating in the blood. The rational treament must always be that which tends to increase and to strengthen the eliminative process, and I know of no more potent factor to initiate and maintain elimination than a subcutaneous saline injection. In the later weeks of the disease we in this case used the infusion of digitalis, one-half ounce dose given every four hours, and given hot. The diet of the patient has always been carefully watched, and while it was at first largely devoid of proteids, at the same time it was made as generous as possible. In the late weeks we have endeavoured to feed the patient as liberally as the kidney condition would admit.

Such is the history of the case as we have given it. You will see that this patient has undoubtedly an organic lesion in her kidneys, a parenchymatous nephritis. She gave no history of previous kidney trouble, and I think it is fair to assume that before the onset of the eclampsia her kidneys were healthy. This is one of those cases where eclampsia has determined definite organic change, and the ultimate prognosis for the patient herself is by no means satisfactory.

The annual exhibition of pathological specimens in the McGill Medical Museum opened on the 23rd March, and will continue till the 15th April. The more noteworthy new specimens are a series of eyes mounted after the Greff method, three specimens mounted in imitation of the Buchlolz process, an iniencephalic monster and microscopic sections. After the exhibition the specimens will be placed upon the shelves.

The Medico-Chirurgical Association, of Joliette, held its last meeting on the 14th of March at Assomption, under the presidency of Dr. Albert Laurendeau. There was an official reception by the mayor, and the question of the tariff of medical fees came up for discussion. The president read a paper on Uterine Curettage, and the secretary, Dr. J. M. Aumont, discussed the prophylaxis of tuberculosis.

THE

Montreal Medical Journal.

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EDITED BY

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G. GORDON CAMPBELL, WILLIAM GARDNER
FRANK BULLER, F. G. FINLEY,
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THE CAPACITY OF THE CHEST.

Another illusion is gone. The broad-chested heroes of fiction and common speech have been removed from their high place. Dr. McKenzie did it with his calipers, tape measures, sliding scale and spirometer. He measured five hundred young men and divided them into two classes, those with broad chests and those with deep chests. Then after his usual manner he made diagrams drawn to scale, and proved to a conclusion that the narrow-chested man has a breathing capacity of nearly eight inches above the average of the whole five hundred, and that the broad-chested man has a capacity of nearly eight inches below the average. In one case the capacity was 259 cubic inches; in the other it was 243 cubic inches.

Another valuable demonstration which Dr. McKenzie afforded to the Society, is that the ability to throw a chest is no indication of vital capacity, which goes to confirm the suspicion that chestiness is not conclusive proof of intellectual greatness. The young god, which he

exhibited before the meeting had an expansion of six inches, which was increased two inches more by the familiar device of allowing the pectoral and dorsal muscles to spring out the tape by their contraction. Yet, when he was measured at a point below the influence of these muscles, the expansion was barely four inches, and by the spirometer, the actual capacity was determined to be only 243 cubic inches.

Dr. McKenzie's passion for the facts, which underlie the canons of beauty, led him to take measurements of such examples of Greek sculpture as have come down to us, and he found them in singular agreement with his results, that vital capacity goes with the deep narrow chest, rather than with the variety which is classed as broad.

These experiments open up other enquiries; whether the high thoracic, the thoracic or the abdominal method of breathing is the most effective in singing, whether the thoracic breathing, habitually found in women, is a provision associated with the main function of the female, or is a habit acquired from the exigencies of modern dress, whether in short it is the outcome of the curse of Eve or of the curse of the corset.

A JURIDICIAL INNOVATION.

The quarrel which the profession has with persons, who claim that they possess secret preparations for the cure of disease, or occult systems of treatment, arises from this very secrecy. We say that if a man has acquired anything which he thinks is of value in alleviating the miseries of his fellow-men, whether he has obtained it by long study, by inheritance, by accident, by a deep knowledge of the herbs of the field, or by commerce with the Indians, usually of South America, who appear to be the repositaries of all things of medicinal virtue, he should instantly disclose it for the illuminating of those of us who sit in darkness.

Some of these systems have in them an element of truth; but for the most part, their efficacy depends upon the mystery with which they are surrounded, and when they are dragged into the light, all virtue has gone out of them. They have their widest application in those cases in which moral disorder is associated with physical disease, as in alcoholism and other addictions to poisons. In reality, drunkenness is merely a manifestation of impaired will power, a giving over of the control of the nature to its baser elements, a replacement of the higher by the lower. That is also the explanation of those actual degenerations of tissue, which may be recognized by microscopic section.

We have no desire to speak ill of the magistracy; yet there is no excessive display of contumacy in saying that there are some social

problems, whose solution is *ultra vires* of the intelligence of a police magistrate's court. It has always been the perquisite of a judge to hand over the dead body of a criminal to be anatomized by the physicians; it is a new reading of the criminal code, that he may assign a living culprit to endure a secret treatment which is unauthorized by those who know most about the treatment of disease.

From statements publicly made, it would appear that persons convicted of drunkenness before the civic courts may in future have the option of going to jail, or undergoing a secret physical treatment for their moral evil. They may not have heard of the potency for harm of "black jags," which we believe are a feature of most secret cures, and with the weakness of will peculiar to them, they may elect that doubtful incitement to abstinence rather than the sure restraint which a term spent in jail will afford.

We have been at some pains to ascertain the facts about this juridicial innovation, but our researches have not been productive of knowledge; indeed there was a singular reticence on the part of the officials at the City Hall, of whom enquiry was made. One thing we may promise; if, out of this secrecy, events should arise, which become fit subject for inquiry before a Coroner's court, or before a court dealing with the assessment for damage for injury caused by bizarre medication, we shall render to the courts what assistance we can.

THE REGISTRATION OF BIRTHS.

The profession in New Brunswick has gained a victory over the law. Some few weeks ago a number of physicians in St. John were haled before the police magistrate for refusing to report the births, which had occurred in their practice. This action was taken under and by virtue of the Vital Satutes Act recently enacted by the Legislature, but upon representation by Counsel, the information was withdrawn, on the ground that the exclusive right to legislate upon vital and statistical matters belongs not to the local legislature, but to the Parliament of Canada.

Dwellers by the sea are ever lovers of liberty, but other causes than the regard for abstract justice must have been at work to import so much bitterness into the controversy. The registration of births is a necessary adjunct to a civilized way of life, and it becomes the profession to devise some means less offensive to them, by which that desirable end can be secured. To our mediæval mind there does not seem to be anything abhorrent in the idea of recording the fact that a child has been born into the world; rather it is a feat to be proud of, and one of increasing rarity save in the Province of Quebec. It is worth a little forbearance to prevent physicians and the law getting at cross purposes.

THE STUDENTS' UNION.

Readers of this JOURNAL, whose memories go back to a time two months ago, will recollect that a strong plea was made for a drawing together of the Young Men's Christian Association and Students' Union. The burden of the plea was that the university had need of the association, and that it could best fulfil its mission within the pale, by touching the student life at all points. Assurance was given at the same time that the Union would be built, and that speedily, even though at the moment all the money was not actually in hand. This assurance has been converted into a reality by the events which happened on Thursday of last week, upon the occasion of an address given before the undergraduates, by the president of the Cambridge Union, who is now on a visit to this country.

The vice-Principal, to whom the announcement was entrusted, conveyed the pleasing intelligence that a never failing friend of the University had voluntarily come to the help of the graduates, by contributing one hundred thousand dollars to the fund. The means have, therefore, been secured for the immediate erection of an edifice in harmony with the noble pile of buildings which has grown up around McGill during the past century. The gift has been given without condition; all that remains is that it is left to the honour of the graduates to continue their efforts and so provide a fund which will go to the maintenance of the union in perpetuity. The graduates also have done well. Almost without solicitation they have contributed of their money, and what is more significant they have evinced their gratitude and loyalty towards the university, to which they owe so much. To have made a complete canvass of the graduates, however useful from an educational point of view, would have consumed valuable time, and this splendid gift permits of the immediate undertaking of the work: the graduates can at their leisure acquire merit by continuing their contributions. There is a plot of ground at the corner of Sherbrooke and Victoria streets, and it only requires the exercise of a little imagination to see the Students Union upreared upon it. With the association building at the corner of the avenue, the needs of the undergraduates will be well supplied.

Sir William Macdonald has done great things for the university: if proof were required of his beneficence one has but to look around. This latest effort of his will crown his labours, for it marks a new era. in which all the interests of the university will be consolidated.

The communication by Dr. Charles H. Higgins, in the March number of the JOURNAL, entitled Human and Comparative Medicine, was

read before the Medical Society of Ottawa, not before the Ottawa Medico-Chirurgical Society as therein stated.

The second Congress of French speaking physicians of North America, to be held in the halls of Laval University in June, will be enriched by the presence of Paul Segond, surgeon of the Salpetriere, who will come as a delegate of the Faculty of Medicine. Prof. Pozzi is also expected as a representative of the University of France.

We have to chronicle, this month, the untimely death of Dr. M. J. Brennan and of Dr. W. B. Burland, two men long and well-known in their several walks in life. Dr. Brennan served the poor for twenty years and was loved by them—that is the highest distinction to which a surgeon can attain. Dr. Burland's work lay in a smaller circle, and it will be bitterly lamented by those who have endured the loss of their trusted physician. Of the "heavy change" to their immediate families we forbear to speak.

The more foolish amongst the public, who obtain their medical advice from the newspapers and drug stores, should take warning by the fate which overtook Raoul Moisan. In company with his brother and a chemist he entered a drug store, which was owned by his brother, and after due consultation all three partook of something, "that would give them an appetite for dinner." All three were poisonously affected, and in a few hours Raoul Moisan was dead. The extravagant claims made for the contents of a drug store have bred contempt in the minds of those who know. If drugs are not as efficacious in curing disease as the public think, they are as potent for destroying life as they were in the time of Socrates.

Reviews and Notices of Books.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Original Articles. Edited by A. O. J. KELLY. Vol. IV. J. B. Lippincott Company, Philadelphia; Charles Roberts, Montreal.

This volume, like its predecessors, is full of interest in the variety of its contents and by the freshness with which each theme is treated. These Quarterlies are looked for with expectation, and nothing more is demanded of the reviewer than an enumeration of the contents.

TREATMENT:—The clinical features and treatment of Ulcer of the Stomach, by James Tyson, M.D.; the treatment of Pneumococcic infec-

tion of the lung, by John H. Musser, M.D.; the treatment of Chronic Bronchitis, by Thos. A. Claytor, M.D.; subcutaneous injections of Mercury for Syphilis, by Louis Julien, M.D.

MEDICINE:—On the importance for students of Physiognomical Diagnosis in disease, by Sir Dyce Duckworth, M.D.; some clinical aspects of Diseases of the Kidneys, by H. B. Favill, M.D.; the clinical manifestations and treatment of Chronic Nephritis, by L. F. Bishop, M.D.; Tropical Dysentery, with remarks on the diagnosis, prognosis and treatment, by Andrew Duncan, M.D.; Palpitation, Abnormal Rhythm, and frequent Pulse, by Thos. F. Satterthwaite, M.D.; the parallelism between the clinical symptoms and the pathological lesions of Rheumatic Fever, by F. J. Poynton, M.D.; Angioneurotic Edema, its clinical varieties, with typical cases, by James Burnet, M.D.; Syphilitic aortitis, by Robt. B. Preble, M.D.

SURGERY:—A case of interilio-abdominal amputation for Sarcoma of the Ilium, and a synopsis of previously reported cases, by W. W. Keen, M.D., and J. C. DaCosta, M.D.; Vesical Calculus, Thrombosis of the spermatic veins, Cervical tuberculous lymphadenitis, Sarcoma of the submaxillary gland, Syndactylus, traction injury of the perineal nerve, paralysis of the circumflex nerve, Rachitis, Acute osteo-myelitis of the os calcis, adenomatous goitre and ganglion, by Nicholas Senn, M.D.; the radical cure of Prostatic Hypertrophy; by J. Albarran, M.D.; Stricture of the Œsophagus, by M. F. Coomes, M.D.; the differential diagnosis of acute abdominal conditions which require surgical treatment, by W. H. Battle, M.B.; Acute Phlegmon, Lipoma, Multiple abscess of the kidney, Nephrectomy, by Wm. C. Dugan, M.D.

GYNÆCOLOGY AND OBSTETRICS:—The non-surgical treatment of Displacements of the Uterus, by F. H. Davenport, M.D.; the technic of manual surgical cleansing, Salpingectomy, Ovarian resection, Celloidin wound closure, by F. H. Wiggin, M.D.; Hysterectomy in acute Puerperal Infection, by A. Pinard, M.D.; Gonorrhœal Vulvitis, its dangers and treatment, by Louis Frank, M.D.

NEUROLOGY:—Hemiplegia in the young and in the old, by Alex. James, M.D.; Multiple sclerosis and Delirium Tremens, Cerebral hæmorrhage and right-sides hemiplegia without aphasia, Tabes Dorsalis, by Daniel R. Brower, M.D.

ORTHOPEDICS:—Congenital dislocation of the hip, Infantile cerebral paralysis, Congenital Club-Foot, by J. L. Porter, M.D.

OPHTHALMOLOGY:—The preparation of the patient for Cataract Extraction, by Casey A. Wood, M.D.; the diagnosis and treatment of Acute Glaucoma, by E. Valude, M.D.

Pathology:—The present state of our knowledge of Immunity, by Joseph McFarland, M.D.

Diseases of the Gall-Bladder and Bile-Ducts, including Gall-Stones. By A. W. Mayo Robson, F.R.C.S., assisted by J. F. Dobson, M. S. (Lond.), F.R.C.S., third edition. London, Baillière Tindall and Cox; J. A. Carveth & Co., Toronto.

The name of the author would seem to be a guarantee of the quality of the work. Few men are more widely and favourably known in the department of surgery which deals with the bile passages and pancreas. The present work is quite up to the standard of his previous publications.

After devoting a chapter to the anatomy of the bile passages, the author enters fully into the physiology of the bile and its secretion, which by the way he regards as almost wholly an excretion. From his experience in animal experimentation and with numerous patients with biliary fistulæ persisting for a time sufficient to enable accurate observations to be made, he concludes that the old ideas regarding the influence of well-known drugs as cholagogues is erroneous. It would seem, for example, that calomel and rhubarb rather retard than excite a flow of bile; in fact the salts of soda stand almost alone as excitants of the biliary flow, and that only to a limited degree.

Mr. Robson has collected and described most of the abnormalities including congenital absence of the gall-bladder and ducts. He is inclined to regard the occlusion of the ducts sometimes found in infants as probably secondary to cirrhosis.

Infection and inflammation of the bile ducts and gall-bladder receive the attention which they merit, and this chapter is most complete. He clearly defines and differentiates simple empyema or suppurative catarrh of the gall-bladder, which is closely allied to suppurative cholangitis from phlegmonous cholecystitis which, however, is also associated with pus in the gall-bladder. The clinical history of each is clearly delineated.

The view that all biliary calculi have a bacterial origin is certainly gaining ground. It would seem that they result from a milder and more attenuated infection of the bile passages than occurs in phlegmonous angeocholitis, and more particularly from infection by the typhoid and colon bacilli.

Mr. Robson gives Professor Beck's results in demonstrating the presence of gall-stones by skiagraphy, and describes the technique that has given the best results.

In speaking of the difficulties encountered from hæmorrhage, the

author has found that while long standing jaundice undoubtedly increases this tendency, lesions of the pancreas, as for instance chronic pancreatitis, contribute much more to the increase of this most troublesome and dangerous complication. He continues to obtain satisfactory results from the use before and after operation of calcium chloride, and prefers it to gelatine.

The lumbar incision and retroperitonial approach to the common duct is condemned. A stab wound in the loin may be useful in certain cases.

The operative technique, in the perfection of which Mr. Robson has contributed such a large share is considered very fully, and his description of methods are clear and concise. Many case reports are given, illustrating the different conditions under discussion, and add much to the interest of the book. An appendix contains a brief summary of the 539 cases upon which the author has operated. The whole subject is discussed broadly, and the views of German, French and American surgeons are given due consideration.

PROGRESSIVE MEDICINE, VOL. I., MARCH, 1904. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 337 pages, 7 illustrations. Per annum, in four cloth-bound volumes, $9.00; in paper binding, $6.00, carriage paid to any address. Lea Brothers & Co., Publishers, Philadelphia and New York.

One notes the change in form from the familiar red cloth binding to paper covers. It reduces the price and yet is sufficiently stout to withstand all ordinary wear and tear and makes the volume easier to carry and handle. In addition it permits the advantage of binding in conformity with one's taste and uniformly with other books. The subjects treated in this volume are Surgery of the Head, Neck and Thorax, by Charles H. Frazier, M.D.; Infectious Diseases including acute Rheumatism, Croupous Pneumonia and Influenza, by Robert B. Beble, M.D.; the Diseases of Children, by Floyd M. Crandall, M.D.; Laryngology and Rhinology, by Charles C. Grayson, M.D.; Otology, by Robert L. Randolph, M.D. An index completes the volume. Comparing small things with great, if other centres receive as much attention as Montreal, then the field has been well gleaned; Keenan's case of Cyst of the lower jaw, Archibald's Sarcoma with resection of the jaw, and Elder's case of Paget's disease all receive adequate mention. The volume is composed of five important

monographs, which those who have any interest in the subjects cannot afford to neglect. The book in its new form is pleasant to the eye and to the hand, and is done with rare editorial skill.

Infectious Diseases, their Etiology Diagnosis and Treatment. By G. H. Roger, Professor Extraordinary in the Faculty of Medicine, Paris. Translated by M. S. Gabriel, M.D. Lea Brothers & Co., 1903.

The practitioner who turns to this book for a categorical arrangement of symptoms and signs of infectious diseases will be disappointed. And yet a perusal of its pages cannot fail to interest both physician and surgeon alike. The work is more comprehensive than its title would imply for it "comprehends almost the entire scope of internal medicine and touches many of the principles underlying modern surgery as well.

The author, familiar alike with the laboratory and clinical methods of investigation, has treated the subject of infectious diseases from the broadest standpoint possible; dividing the work into twenty-four chapters, covering in the English translation upwards of eight hundred pages.

The first five chapters deal with (a) general considerations; (b) general characters of pathogenic bacteria; (c) etiology; (d) pathogenesis of infections; (e) microbic associations.

The next sixteen chapters include a careful and interesting study of (1) the defenses and reactions of the organism; (2) the results and influences of infection; (3) immunity and predisposition; (4) congenital infections and heredity, and (5) the diagnosis and prognosis of infectious diseases.

The remainder comprising about one-fourth of the book, is devoted to the consideration of the therapeutics of infectious diseases including hygiene and prophylaxis. The scope of the work and the standpoints from which infectious diseases are viewed, are thus indicated.

Dr. Roger pleads for simplicity, and has given to the medical profession a work of high merit and one which, while hopefully advocating new methods of treatment and new views of disease—contains the word of caution and maintains a respectful attitude toward much that has been long since taught. Let a few examples be taken.

"In establishing the rules of prognosis we have depended upon quite simple clinical procedures. As a matter of fact, laboratory procedures are in this respect of little importance. It was for a time believed that bacteriology would supplant clinical observation. The study of diphtheria led to the erroneous conclusion that examination of cultures

enabled one to determine the gravity of the angina. . . . Although such correspondence may at times be observed, it is far from being the rule and cannot replace examination of the sick, or even modify the prognosis based upon clinical observation. . . We, therefore, conclude that prognosis even more than diagnosis should be based upon simple procedures, upon an attentive examination of the patient, and minute and complete analysis of the disturbances which be present." This work is most interesting when dealing with the subject of serum therapy. A history of the treatment by serum method, with a summary of results is found. In the closing chapter devoted to this subject, such remarks as these may be found: "The serum may combat bacterial intoxication, it may oppose the development of the microbes, it may neutralize their products of secretion, but it can accomplish nothing against concomitant autointoxications. . . ." "Serums succeed better in laboratories than in clinical experience, and for this reason, old therapeutic methods should not be abandoned. . . . ." The indications of serum therapy should be determined, and it should be associated with other methods. Such is the path the clinician should follow."

The translation appears to have been well done, and Dr. Gabriel has rendered distinct service to English students to whom the French text is not known. *W. F. H.*

Infant Feeding in its Relation to Health and Disease. By Louis Fischer, M.D. Third Edition, Revised; Containing 54 Illustrations, with 24 Charts and Tables, Mostly Original. 357 pages. Price, $2.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

There are few subjects upon which more thought has been expended than the artificial feeding of children, and yet the results are notoriously unsatisfactory. Some children appear to thrive upon any food, and others fail, no matter how much ingenuity has been expended on them. This book of Dr. Fischer's contains all that is known about infants' foods, well arranged and collected into convenient compass, from which the physician may choose according to the needs of the case. The author speaks from a large experience, and many of his results are such as to encourage hopefulness, whilst other cases cited are full of warning.

Subjective Sensations of Sight and Sound, Abiotrophy and other Lectures. By Sir William R. Gowers, M.D., F.R.S. P. Blakiston's, 1904. Chandler & Massey, Toronto.

It is not easy to speak in temperate praise of this book. It is the work of the whole mind of a great observer and teacher, embodying

large knowledge and mature reflection. To obtain a full understanding of these lectures one would require to be a linguist, a musician, a physiologist deeply learned in all that pertains to the special senses and in the profound pathology of the nervous system; yet every sentence is full of meaning even to the average intelligence. The lecture upon the Use of Drugs is a fine plea for the value of experience, a means of knowledge, which is too lightly regarded by the younger generation. The book may be put in the pocket, and it will be a refreshment to all who themselves hope in time to attain to wisdom.

Essentials of Diseases of the Ear. By E. B. Gleason, M.D., Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia; third edition, revised, 214 pages, with 114 illustrations. Philadelphia and London; W. B. Saunders & Co. J. A. Carveth & Co., Toronto. Cloth, $1.00.

This little help, one of Saunders' Question-Compend Series, has reached its third edition and will be found of service as an aid to the student and to the physician, enabling him, as it does, to acquire the rudimentary facts of the science with as little preliminary reading as possible. The essentials of Otology have been stated concisely, without sacrificing accuracy to brevity. The illustrations—many from original drawings—have been selected so that they form a very commendable feature of the work.

The Practical Medicine Series of Year Books. By Gustavus P. Head; Vol. II., General Surgery, by John B. Murphy, M.D. The Year Book Publishers, Chicago.

This series appearing monthly, was mentioned in the March number of this Journal, and on many previous occasions, and always with appreciation. The present volume deals with Surgery. There are but three references to Canadian literature, and none to work done in Montreal. To that extent, at least, the retrospect is incomplete.

The Teaching of the Dutch Language in South Africa; a Paper read at a Conference of Principals of Government Schools in the Orange River Colony. By Dr. Brill, Rector of the Grey College, Bloemfontein, together with a letter addressed to the Rector by Mr. E. B. Sargant, Education Adviser to Lord Milner. Longmans, Green & Co., 39 Paternoster Row, London, New York and Bombay, 1904. Price, 1 shilling.

Transactions of the College of Physicians of Philadelphia. Third series, Vol. XXV., edited by William Zentmayer.

Medical News.

INTERNATIONAL CONGRESS OF OPHTHALMOLOGY.

The tenth international congress of Ophthalmology will be held in Lucerne on the 19th, 20th and 21st of September, the place and date selected at the last meeting held five years ago in Utrecht. The organizing committee have elected as President, Professor Dufour; Vice-President, Professor Pflüger; Secretary and Treasurer, Professor Mellinger and Professor Snellen, president of the last Congress as honorary President. The President of the Swiss Confederation, M. Deucher, M.D., has accepted the position of honorary president of the Congress.

The notification for the meeting has been issued by a committee of Swiss ophthalmologists composed of Professor Snellen, Utrecht; Dr. Barde, Geneva; Professor M. Dufour, Lausanne; Professor Haab, Zurich; Professor Pflüger, Bern; Dr. E. Landolt, Paris; Professor Mellinger, Bâle.

Any colleagues desiring fuller information can obtain it from Walter H. Jessop, M.B., 73 Harley street, London; George Mackay, M.D., 20 Drumsheugh gardens, Edinburgh; Henry R. Swanzy, M.B., 23 Merrionsquare, Dublin; G. E. De Schweinitz, M.D., 1401 Locust street, Philadelphia; V. Coote, M.D., Quebec, or Alfred Osborne, Alexandria, Egypt, who have been appointed correspondents for the United Kingdom and for the United States.

There will be only one official subject, to determine which the authority of a Congress appears to be necessary, namely: "To settle the question of indemnity as regards the value of an eye, lost or injured." The committee has asked Professor Axenfeld, Freiburg; Dr. Sulzer, Paris, and Dr. Würdemann, Milwaukee, to draw up a report on the subject, which will be printed at the beginning of the official report, and will be first discussed at the Congress.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

The American Medico-Psychological Association will hold its next annual meeting in St. Louis, May 30th to June 3rd, inclusive, under the presidency of Dr. A. E. Macdonald, of New York. The local committee has decided to hold morning sessions only, so that the allurements of the exposition will not detract from the scientific value of the meeting or distract the attention of members. Special railroad rates will be obtained, and hotel accommodation at a reasonable price at the Planters Hotel has geen provided for. The addresses of welcome will be given by A. M. Dockery, Governor of Missouri, by Rolla Wells, Mayor of St. Louis, and on the part of the medical pro-

fession of Missouri by Dr. William G. Moore, president of the State Medical Association. The annual address will be delivered by Dr. C. G. Chaddock, of St. Louis.

CANADIAN MEDICAL ASSOCIATION.

The arrangements for the meeting of the Canadian Medical Association in Vancouver on the 23rd, 24th, 25th and 26th of August are well underway. The railway rate is very satisfactory, being about $62 from Toronto, which carries with it the privilege of returning home by way of St. Louis or the Yellowstone Park, arrangements having been made with both the Great Northern and the Canadian Pacific Railway. The fare from Montreal and the Maritime Provinces has not yet been determined, but it will be equally satisfactory. From present appearances it would seem that about three hundred members will be present.

THE MEDICAL SCHOOLS.

The winter session of McGill Medical School ended on the 25th of March; the spring term will begin on the 5th of April, and continue till the 13th of May. The written examinations will commence on the 20th of May, and the convocation for conferring degrees will be held on the 10th of June. The graduate course will probably be held at a later date than usual, but announcement of it will be duly made. Lectures in Bishops College ended for the winter on the 31st of March.

ASSOCIATION OF FRENCH SPEAKING PHYSICIANS.

The Association of French Speaking Physicians of North America will hold its second congress at Laval University, Montreal, from the 28th to 30th of June. A complete programme will be issued later. The secretary is Dr. J. A. Le Sage, 268 St. Denis street.

MONTREAL GENERAL HOSPITAL

During the month of February there were 248 patients admitted to the wards of the Montreal General Hospital, and 213 were discharged. The deaths numbered 28. The daily average of sick was 186, and the ambulance responded to 135 calls. In the out-door department 3,042 consultations were given.

WESTERN GENERAL HOSPITAL.

Report for February, 1904:—Admitted—surgical, 20; medical, 17; gynæcological, 5; total, 42. Discharged—cured, 24; improved, 5; not improved, 1; died, 1; total, 31. Remaining, March 1st, 32. Out-

door—medical, 170; surgical, 98; gynæcological, 99; eye and ear, 57; nose and throat, 87; skin, 21; genito-urinary, 88; total, 614.

ROYAL VICTORIA HOSPITAL.

The following is the monthly report for February: Patients admitted, 210; patients discharged, 212; patients died, 18. Medical, 74; surgical, 88; ophthalmological, 17; gynæcological, 22; laryngological, 9; total, 210. Out-Door Department: medical, 673; surgical, 314; eye and ear, 240; diseases of women, 109; nose and throat, 328; total, 1,664. Ambulance calls, 70.

NOVA SCOTIA HOSPITAL.

The forty-sixth annual report of the Nova Scotia Hospital for the Insane has been issued. During the year 133 patients were admitted, of which 106 were admissions for the first time. The inmates at the end of the year were 387, the deaths were 40, and the recoveries 53. The ordinary expenditure for the year was $69,802, and the per capita cost $182,17. The Medical Superintendent, Dr. Hattie, notes in his report the large number of deaths from tuberculosis and a mild epidemic of diphtheria; in a very interesting chapter on the Increase of Insanity, he notes that in the last forty years the admissions to the hospital have doubled, while the population of the province has increased by 38 per cent. The ratio of admission to population is now one in 4,173.

NEWS FROM NOVA SCOTIA.

The report of the Victoria General Hospital shows that 1,558 patients received treatment in the wards of that institution during the year, and 145 remained in the hospital at the time the report was prepared. Among the improvements noted, are a considerable extension to the Nurses' Home, the installation of a modern and complete X-ray apparatus, and a new electric elevator. Two surgical wards were refurnished. The ordinary expenditure for the year was $62,621, or $1.23 per patient per day. This institution has been much improved under the superintendency of Mr. W. W. Kenney. The equipment has been greatly amplified and the efficiency of the institution correspondingly increased. The estimates for the current year provide an appropriation of $63,700 for ordinary expenditure, and $12,000 for expenditure on capital account.

Another report presented to the legislature which is of interest to the medical profession, is that of Dr. Geo. L. Sinclair, the inspector

of humane institutions. He is able to report gratifying improvement in the equipment and conduct of many of the county asylums, where the chronic insane, imbeciles and idiots are cared for. Dr. Sinclair is also inspector of penal institutions, and through his efforts much improvement has been made in the comfort and sanitary state of the jails and prisons throughout the province.

In his reports upon humane institutions and upon penal institutions, which are published separately, Dr. Sinclair makes cogent and forcible pleas for a school for feeble-minded children, and for a proper reformatory for erring youths. He has received strong support from Hon. Mr. Longley, Attorney-General, who addressed the house at considerable length upon the subject, and issued a brochure in the shape of a small blue-book setting forth his views.

The Government of Nova Scotia enjoys the distinction of maintaining the only hospital in America which is supported entirely by public funds. It also gives liberal support to several local hospitals. And now it is to be credited with the erection and support of the only sanitarium for tuberculosis in Canada, which is a government institution pure and simple. A model sanitarium has just been completed at Kentville, and is now being furnished. Its doors will be opened in a short time for the reception of patients. The institution is small, being designed for eighteen patients, but it is understood to be the policy of the government to erect other institutions in different parts of the province, and sufficient land has been purchased at the Kentville site to make large extensions. Time will be allowed, however, sufficient to determine how nearly the present institution approximates to the needs of the class it is intended to serve, so that plans for future buildings may, if necessary, be modified intelligently. The building just completed is comfortable and roomy, and embraces the most modern ideas in sanitarium construction.

An act was passed at the recent session of the Provincial Legislature providing for the abolition of the Provincial Board of Health, and the appointment in its stead of a Provincial health officer whose powers will, if anything, exceed those of the old board. For some time the board has been a very inert body, and the work expected of it has been performed by the secretary, Dr. A. P. Reid. Dr. Reid is a very enthusiastic sanitarian, and it is quite probable that he will be appointed to the new office.

The Halifax Branch of the British Medical Association has been having an unusually successful session. The branch meets fortnightly, and a number of papers of special merit have been presented this winter. Among those who have contributed papers are, Dr. Arthur Birt,

of Berwick, Dr. T. D. Walker, of St. John, N.B., and Dr. W. G. Putnam, of Yarmouth. Dr. H. K. MacDonald, of Lunenburg, is down for a paper at a future meeting. Other papers have been furnished, or are to be furnished, by local physicians.

The profession in Nova Scotia has sustained a distinct loss in the death of Dr. D. H. Muir, of Truro, who has been prominent in the medical circles of the province for many years. He was one of a medical family, his father having been one of the foremost practitioners of Colchester County, and Dr. W. S. Muir, whose sudden death two years ago was so sincerely mourned throughout the Dominion, was a brother. Dr. Muir enjoyed a large practice, but was able to find some time to devote to public interests, and he was three times elected mayor of Truro. He also took an active part in Dominion politics, and once contested Colchester in the Conservative interests, but failed of election. He was ill for many months, and death was not unexpected. Of his sons, one is studying medicine at McGill University.

An action for damages has been entered by Mrs. Lucy J. Stickle, of Toronto, against W. F. Bryant and George B. Smith, physicians. The writ states that the damages asked are for the "wrongful issue of a certificate of lunacy against the plaintiff, whereby she was illegally and falsely arrested and imprisoned." It is alleged that upon the certificate of the two defendants the plaintiff was taken one night from the residence of her husband and conveyed to the Asylum for the Insane. She was subsequently examined by Dr. D. Clark, superintendent of the asylum, who declared the woman to be sane, and she was released.

A meeting was held at Government House, Toronto, on the 14th of March, presided over by the Lieutenant-Governor, to consider plans for the furnishing of the Toronto Free Hospital for indigent patients suffering from consumption. The hospital is now almost completed, and is projected to relieve those in the advanced stages of tuberculosis. Addresses were delivered by Mr. W. J. Gage, chairman of the Executive Committee of the National Sanitarium Association; Dr. J. H. Elliott, physician-in-charge, Muskoka Free Hospital for Consumptives, and Rev. P. C. Parker, travelling secretary National Sanitarium Association.

The twenty-fifth annual report of the Montreal Diet Dispensary has been issued. It shows that 13,236 orders were filled, and the articles dispensed included beef-tea, 3,909 pints; chicken broth, 5,270 pints; wine jelly 2,635 pints; calf's-foot jelly, 1,144 pints; milk, 4,901 pints;

meat jelly and broth, 761 pints; blanc mange, 26 pints; puddings, 1,141. The receipts were $3,862, and $374 was carried forward.

The next annual meeting of the Ontario Medical Association will be held in Toronto on the 14th, 15th and 16th of June, under the presidency of Dr. James F. W. Ross. The general secretary is Dr. Charles P. Lusk, 95 Bloor street, west, Toronto.

The last number of the Bulletin Médical de Quebec bears the name of Dr. Charles Verge as editor, instead of Dr. Arthur Simard. In the words of a French contemporary, "we do not doubt that serious motives have induced Dr. Simard to offer his resignation."

The Government is making preliminary enquiries with a view of erecting a hospital for immigrants in Quebec, where cases of infectious disease may be treated.

A complete general hospital, costing $200,000, equipped with special departments, sun baths, a roof garden and a new style of heating, will be erected in St. Boniface this year.

The last number of the Ophthalmic Review, the leading journal of ophthalmology in England, published by the Churchills, has the name of Dr. J. W. Stirling added to its editorial board.

Dr. M. T. Brennan, gynæcologist of Notre Dame Hospital and professor of Laval University, died from pneumonia following an attack of influenza, in the 42nd year of his age. Dr. Brennan was a native of Montreal and a graduate of Laval, with which he was identified as a professor for 14 years. He was connected with Notre Dame Hospital for 22 years. Within the same month Dr. Brennan had lost two of his children, one a boy of five and an infant a year old.

Dr. Carter, of Moosomin, where he had practised for twenty-two years, died early in March.

Dr. William Semour Christie, of Flesherton, Ont., died on the 12th of February, aged 80 years.

Dr. J. C. Richardson, a graduate of Trinity University, Toronto, died at Burlington in his 39th year of pulmonary tuberculosis.

Dr. J. H. MacLellan, of Summerside, died on the 12th of March in the 54th year of his age. He had been health officer of the town for several years.

Dr. S. R. Harkness, of North Gower, died of appendicitis on the

7th of March in the 37th year of his age. He was a graduate of Queen's College, Kingston.

Dr. Elias Vernon, of Hamilton, died on the 7th of March in the 76th year of his age. He was a graduate of Toronto University and a native of Newmarket.

Dr. W. J. Anderson, of Smith's Falls, died on the 18th of February in the 65th year of his age. He was a graduate of Queen's College, Kingston, in the class of 1861.

Dr. Michael R. Collver, of Stevensville, died on the 9th of March.

Dr. J. B. Carruthers, of North Bay, died suddenly whilst engaged in his duties on the 13th of March.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

ALFRED S. TAYLOR, M.D., and L. PIERCE CLARK, M.D. "The Surgical Treatment of Facial Palsy with the Technique of Facio-hypoglossal Nerve Anastomosis." *New York Medical Record*, February 27, 1904.

The evolution of this operation from facio-spinal accessory anastomosis is reviewed briefly, the physiological, pathological, and anatomical reasons for preferring the hypoglossal are dwelt upon, and the technique of the operation described and illustrated. The implantation of the facial into the hypoglossal is preferred to an end anastomosis for though in the latter, nerve regeneration is more active and complete, a permanent paralysis and atrophy of all the muscles supplied by the divided hypoglossal necessarily follows. The operation is indicated in all cases of facial nerve paralysis resulting from a lesion of the nucleus within the brain or of the nerve trunk on the base of the brain, and in lesions of the nerve following operations for mastoid disease as recovery from these affections is rare. It is justifiable in Bell's palsy when there is complete reaction of degeneration of the facial nerve after several months of faithful treatment, and there is no indication of volitional return of nerve power. The zygomaticus major muscle is taken as the one giving most trustworthy information regarding the amount of recovery as it is innervated from the seventh nucleus alone. The best results are obtained in cases where the paralysis is due to traumatic division of the nerve, and in those cases where atrophy has been prevented as far as possible by systematic use of massage and

electricity from the onset of the paralysis. Less hopeful of complete recovery are cases of neuritis, especially if suppurative in character, as is suppurative mastoiditis. The after treatment is of great importance and consists in massage, electricity and later on co-ordinated muscular movements. Three cases are reported, in two of which a good prognosis could be made, while in one it was doubtful.

Maurice H. Richardson, M.D. "Remarks upon Cholecystectomy and Cholecy-stostomy with Special Reference to their Comparative Safety and Efficiency in the Treatment of Biliary Affections. *Boston Medical and Surgical Journal*, February 11, 1904.

The writer has practised cholecystectomy more frequently of late and has found it very satisfactory. The morality has been small, convalescence rapid, and little tendency to hernia. The cases have been too few and the elapsed time too short, however, to formulate definite opinion regarding the permanent results upon the general well being of the biliary passages, or upon the reformation of gall-stones. In some cases there can be no question of choice between the two operations as when the gall bladder is old, contracted, infected, useless and already partially extirpated, here cholecy-stectomy alone is to be considered. Choice exists only when the gall-bladder is normal or comparatively so. The question of selection is discussed under the following heads: the comparative dangers of the two methods, the comparative efficacy of preventing the recurrence of gall-stones, the advantages of temporary drainage of the biliary passages, the possible necessity and increased difficulty of a subsequent operation. Clinical experience has shown cholecystostomy to be the safest of all operations on the biliary passages. It is assumed that extirpation of a normal gall-bladder is almost but not quite as safe as cholecystostomy, but if there is any choice on the ground of immediate danger it is in favour of simple drainage. If a cholecystectomy be done we lose the great benefit derived from drainage of the biliary passages or secure it by subjecting the patient to a much greater risk by draining from the hepatic or common duct, and we render a subsequent operation much more dangerous. He believes cholecy-stectomy does not give as good ultimate results as cholecystostomy which gives to the patient the very best chance for immediate and for remote recovery. There are cases in which drainage is quite as dangerous as extirpation as when the gall-bladder is deeply contracted, hard to find, adherent to surrounding viscera, and infected. In order to drain such a bladder it is first necessary to isolate it from surrounding structures and when it has been isolated down to the cystic duct, extirpation is a simpler and safer procedure than drainage. In

many such cases, however, it is essential to drain the bile passages, and if it cannot be done through the contracted gall-bladder and cystic duct, the hepatic or common duct must be sought for and drainage made through them, a much more dangerous and difficult operation than some appear to regard it. With reference to preventing recurrence of gall-stones he believes they are almost always if not always formed in the gall-bladder, and hence removal of the gall-bladder would be the ideal operation. The possibility—and it is a real one—that all the stones are not removed at the first operation, that gall-stones, according to the writer's experience, seldom reform even in the gall-bladder, the ease in which drainage and its great beneficial effect may be obtained by a cholecystostomy all go to lessen the weight of argument in favour of cholecystectomy. With reference to drainage, he holds that when the bladder is normal or comparatively so, cholecystostomy provides the quickest and safest way. When the bladder is so diseased that it must be removed then drainage through the hepatic duct must be used, for cholecystectomy without drainage is an incomplete and dangerous operation. From all of which it would seem that cholecystectomy is an operation of last rather than of first resort, an operation for old, contracted, infected, useless gall-bladders through the remains of which, however, temporary drainage may be easily and safely established.

Charles L. Scudder, M.D. "Cholecystostomy and Cholecystectomy. A Study of a Certain Series of Operations. *Boston Medical and Surgical Journal*, February 11, 1904.

The following are the writer's conclusions regarding the two procedures. Cholecystostomy should be done in those cases of gall-bladder and biliary duct surgery in which quick drainage is needed for the deeper ducts and in which the surgeon is not absolutely sure that the deeper ducts are entirely free. Cholecystectomy should be done in cases of acute cholecystitis, in cases of cholecystitis resulting in gangrene and empyema of the gall-bladder, in small contracted (infected) gall-bladders which are functionally useless and will not be of service in facilitating drainage, and in all cases in which the surgeon is quite sure the deeper ducts are free from obstruction. During an acute attack of gall-stone colic it is wise to postpone operative interference. Any patient having definite signs of gall-stones or an inflammatory process around the gall-bladder should be operated upon, the earlier the operative interference is instituted the easier the operation and the less risk to the patient of the complications and sequelæ of gall-stones. An interesting series of 16 cases is given.

W. L. B.

GYNÆCOLOGY.

UNDER THE CHARGE OF WILLIAM GARDNER.

Uterine Cancer.

JANVRIN, J. E. "The surgical treatment of early diagnosed cancer of the uterus, more especially by hysterectomy." *American Gynæcology,* May, 1903.

It should be stated at the beginning that malignant disease starting in the endometrium, is a purely local affection for some months, whether the endometrium be that of the body or cervix. When beginning on the vaginal portion of the cervix, its tendency to spread to and down the vaginal wall is checked for a time by nature herself, a bulwark of connective tissue being thrown up around the margin. When the case is seen at this period, *i.e.*, when the disease is limited to the uterus itself or has only extended to the mucous membrane of the upper part of the vagina, "vaginal hysterectomy is a promising and safe operation, but where the disease has extended through the vaginal wall, part of the bladder or rectum will require to be removed along with the uterus." Richelot gives, as a conservative estimate, ten per cent. of permanent cures by vaginal hysterectomy in cases in which the uterus is mobile and the disease is sharply circumscribed.

Winter states that, at the Berlin Clinic, of 300 cases of cancer of the cervix operated on prior to 1892, 30 per cent. were cured, *i.e.*, five years exemption from return of the disease, and in 30 cases of cancer of the body 53 per cent. were cured.

Olshausen, Waldstein, Kaltenbach, Fritsch, Leopold and others also report favourably upon vaginal hysterectomy for cancer, while Jacobs of Brussels, speaks as strongly against the vaginal as compared with the abdominal route. Freund, Amann, Pryor, Kelly, Polk, etc., favour the abdominal removal of the uterus together with all of the neighbouring glands, but E. C. Dudley of Chicago, writes, "this operation seems to me to involve an amount of danger which is out of proportion to the increased freedom from ultimate mortality."

RIES, EMIL. "The condition of the Pelvic Lymphatics in Carcinoma of the Uterus." *American Gynæcology,* July, 1903.

The microscopic examination of the pelvic glands in cases of cervical cancer, has shown that cancer of the uterus does not differ from that disease in any other part of the body in the proportion of cases in which the neighburing lymphatic glands are involved. While the extent to which the glands are affected varies, the type of disease is always the same in the gland as in the primary seat of disease. Another point noted is the fact that the glands do not become infected by direct continuity, but that particles are carried from the primary

cancer by the lymphatics to the gland and there proceed to grow. These secondary masses may undergo various degenerations and may even form cysts, which are liable to burst during their removal.

A carcinomatous gland is not always an enlarged gland, nor is an enlarged gland necessarily affected with cancer, which two facts should be borne in mind during operation as carcinomatous glands may not be felt until the peritoneum over them has been stripped up.

Occasionally epithelial ducts may be seen in the glands. These ducts may be straight or racemose and run along the trabeculæ and not into the gland tissue as in the case of cancer. Again, the epithelial lining is in one layer in these non-malignant ducts. These ducts are supposed to be remnants of the Wolffian body.

A condition resembling cancer of these glands is a large cell hyperplasia such as is seen in tuberculosis and other conditions. A variety of glands called "hemolymph" has been found both by Warthin and the writer. These glands contain leucocytes and red blood corpuscles in their spaces, and, from their direct communication with the blood vessels, form a channel for metastasis to occur.

Conservative Gynæcology.

Mann, Matthew D. "Should the uterus be removed when the ovaries and tubes are removed in cases of double pyosalpinx, when operating through the abdomen." *American Gynæcology*, July, 1903.

There is no doubt that the ovaries and tubes should be saved in all cases where such a proceeding is possible, but supposing that these structures are so diseased as to demand their ablation, should we proceed to remove the uterus also? Although for a long time opposed to such a procedure, the writer has at last been induced, by the experience both of others and himself, to answer this question in the affirmative.

While staphylococci and streptococci do not tend to spread by continuity of surface, but enter the blood and lymph vessels and are by them carried to distant parts, the gonococci spread from one surface to another without invading deeper parts. For that reason and because of the results of bacteriological examination, it is now generally accepted that gonorrhœal infection is the primary cause of the vast majority of pus tubes. The gonococci travel from the vagina into the uterus, and thence into the tubes where they attack the mucous membrane, here causing lesions which allow other germs to enter the lumen of the tubes. If the above be granted as true, then the uterus is affected in practically all cases of pus tubes and, therefore, it should be removed with the other diseased structures.

"Perhaps the strongest argument in favour of the removal of the uterus is to be found in cases where the infection is still acute." These are the cases in which drainage is required and no method of obtaining this can compare to the vaginal, especially where the uterus has been removed. It has been said that the removal of the uterus affects the sexual life of a woman. While this is undoubtedly true in the case of the ovaries, it is in no way correct regarding the uterus, this organ being "merely a passage-way and a nest for the growing fœtus." Another argument which has been advanced against hysterectomy in these cases is the added risk. This is really very slight and is entirely counterbalanced by the advantages of first having removed a diseased organ and second, by obtaining better drainage than where the organ is left.

Noble, Chas. M. "Should the uterus be removed when the ovaries and tubes are removed in cases of double pyosalpinx, when operating through the abdomen or vagina." *American Gynæcology*, July, 1903.

Fifty-eight cases of pustular affections of the appendages were treated by hystero-salpingectomy with one death, while in 36 cases the appendages alone were removed and two deaths resulted. In other words hystero-salpingectomy and simple salpingectomy had mortalities of 1.7 and 5.5 per cent. respectively. In all of these cases the pus was limited to either the ovary or tube, but where pus is present elsewhere in addition the results are different. Six of these latter cases were submitted to hystero-salpingectomy with a mortality of 66.6 per cent., while in 22 cases the uterus was left with a resulting mortality of 22.7 per cent. In 58 similar cases, incision and drainage of the pus sacs gave a mortality of only 1.7 per cent.

Treub, Hector. "The conservative surgery of lesions of the appendages." *American Gynæcology*, May, 1903 .

All cases of salphingo-öophoritis do not come under the category of surgical cases. Out of 612 cases of this disease, 433 were "more or less completely cured without operative interference." The treatment consisted of rest in bed and ice over painful area as long as the case was acute, after which warm vaginal douches were given, glycerine vaginal tampons were inserted and warm water compresses were applied to the abdomen. Of the 433 cases, only about 20 returned to the clinic for treatment, but doubtless others went to other clinics as most of these patients had come from a distance.

Electricity is not very efficacious, and the electric puncture "ought

to be rejected as much as massage." Massage may be of benefit in some old cases of pelvic cellulitis, but in cases of salpingo-öophoritis is distinctly dangerous, as one never can be certain of the absence of pus cavities among the adhesions.

The ultimate conclusions arrived at are (1) "Medical treatment suffices in at least one-half of the cases of salpingo-öophoritis. (2) Medical treatment being insufficient or contraindicated, one should *never* at the outset perform a radical operation of any sort. (3) The first operative stage should *always* be posterior colpotomy. (4) When by means of posterior colpotomy it is discovered to be a matter of tubercular affection, hysterectomy should be performed as soon as possible. (5) In cases of hydro-salpinx which do not yield to repeated colpotomy and necessitate other intervention, and in cases where one wished to try and remedy sterility in women, the conservative abdominal operations (resection, salpingotomy, salpingo-ovaro-syndosis) are indicated. (6) Salpingorrhaphy as an accessory operation to a course of laparotomy preformed for no matter what other operation."

Genital Tuberculosis.

Veit, J. (Translated by C. P. Noble), "Concerning tuberculosis of the female sexual organs and the peritoneum." *American Gynæcology*, Sept., 1903.

While tuberculosis of the female genitals does not occur any more frequently at present than it formerly did, improved methods of examination enable us to detect it much more readily, autopsies on tubercular subjects showing that in from 4 per cent. to 30 per cent., the genitals were affected.

In deciding the question of the possibility of the occurrence of primary genital tuberculosis, we must be certain that no other organ or tissue than the genitalia, where the trouble can originate, is affected. Judged by this strict criterion, Veit considers that those authorities who quote the higher figures (18 per cent. and up) are unreliable. In diagnosing the condition, one may rest satisfied if undoubted tubercles are found, as it is often almost impossible to detect the bacilli in a given case. The tube is the locus most frequently affected, the uterus ranking second, while "no case of primary ovarian tuberculosis is known."

While the bacillus may traverse the genitalia in an ascending or descending manner, only those ascending can give rise to primary genital tuberculosis, as those which descend must come from an already existing focus in the patient's body. While this axiom is

correct, it should be borne in mind that the bacilli may travel down from a primary lesion in the tube, but even here the bacilli have had to first ascend and be deposited in the tube.

The organisms may be introduced into the genital canal during coitus, or by the examining finger or instruments, or, in the descending form, they may enter it from the peritoneal cavity, or such contiguous structures as may be adherent to the tubes. In addition, however, to the above two routes, *i.e.*, tubal and vaginal, the germs may enter the patient's body through vaginal and vulvar wounds and so get into the blood and lymph streams.

For the diagnosis of this condition, it will be necessary to examine scrapings from the cervix or endometrium or else the uterine discharge, and to find either tubercles or bacilli if we wish to be certain. When these cannot be found and the presence of tumours of the genitalia cannot be otherwise explained, examination of the chest and other parts of the patient's body may reveal some tubercular process and so suggest a probable diagnosis.

The only cases suitable for radical treatment are those of primary origin, but spontaneous cures of genital tuberculosis have been recorded. The treatment should be prophylactic as well as therapeutic.

Veit holds that marriage disseminates tubercle and that, therefore, marriage of a tuberculous person should be discountenanced. Sanitarial treatment, in fact the usual treatment of pulmonary tuberculosis, should be urged.

In local treatment, the free use of iodoform, antiseptic douches, etc., should be tried. If these fail and the disease is primary, Veit advocated the removal of uterus, ovaries and tubes by the abdominal methods, as after less radical measures fistulæ are apt to remain. The abdominal route is chosen because by the vaginal operation adherent coils of intestine are apt to be injured.

Necrotic Changes in Uterine Fibroids.

Fairbairn, John S. "A contribution to the study of one of the varieties of necrotic change in fibromyomata of the Uterus." *American Gynæcology*, August, 1903.

The form, "necrobiosis," here considered results in the conversion of the fibroid into a livid or red softened mass, surrounded by the whiter uterine tissue.

Virchow described tumours which had become necrobiotic as "soft myomata," pointing out that the surface had lost its white whorled appearance and had become "red or plainly fleshy."

The term "necrobiosis" or maceration was given to these tumours

by Gebhart, who compares the change to that which takes place in a macerated fœtus which has died in utero and has not been attacked by germs. He says that the growth becomes softened, and, as a result of breaking down of the red blood corpuscles and consequent spreading of their pigment, becomes pink or flesh coloured and, later on, brownish or greenish.

The differentiation of fibroids into the hard and soft varieties should cease, as the latter are merely the hard tumours which have undergone degenerative changes. The rapidity of growth and their tendency to increase after the monopause is a clinical indication of degeneration and is a strong argument against the expectant treatment of such tumours.

These tumours are usually interstitial and do not reach a large size. Out of 19 specimens recorded by the writer, 17 were interstitial (two being also partly sub-mucous), and two were sub-peritoneal. The largest measured 7 x 6 x 6 inches, and in none was there any evidence of twisting of the pedicles.

The mass usually has a stale smell which may change to a distinctly fishy odour, which is probably due to the presence of some of the amine resulting from the breaking down of the proteids of the tumour. The process begins in the centre of the tumour and advances towards its periphery and bacteriological examination yields a negative result.

Histologically, the tissue of the tumour is seen to have undergone degenerative changes, some of the muscle bands having become granular or even hyaline and the nuclei either being absent or else responding very poorly to the staining reagents. In some places, the nuclei may be seen lying in the middle of vacuolated spaces, especially where the muscle bundles are cut transversely.

These tumours do not occur with great frequency. Out of 88 fibromyomata which were removed in five years in St. Thomas's Hospital, nearly 8 per cent. were found to have undergone this change. The age at which they occur most often is the same as for ordinary fibroids, viz., between 30 and 40. In regard to the relation between pregnancy and necrobiosis, it is worthy of note that in fifteen out of the author's nineteen cases the patients had been pregnant either at the time of or before operation. The etiology of this condition is obscure, none of the theories which have so far been advanced as to the condition having proved satisfactory.

The clinical manifestations are pain and rapidity of growth, but are not sufficiently well marked to be pathognominic. For example, Vautrin's patient had been affected with fibroids for some years and yet the onset of pain only dated from a few months previous to

operation. Out of the 19 cases, pain was severe in 11. Freund warns us to be on the watch for symptoms of atro-intoxication, as a sallow complexion, gastric disturbances, feeble circulation, nervousness and hypochondriasis.

Cystic Fibroyoma.

Webster, Clarence J. "Successful removal of a cystic fibromyoma of the uterus, weighing 87 lbs." *American Gynæcology*, August, 1903.

The patient was 41 years of age and complained of enlargement of the abdomen, a feeling of discomfort, inability to walk with ease, and shortness of breath. Ten years before admission a small lump appeared in the left iliac region, and three years later this was made out to be a uterine fibroid as large as a fœtal head. At this time it is claimed that vaginal ligation of the uterine arteries was effected, but the tumour continued to increase in size. The tumour was tender until four or five years ago, but since then has been insensitive. Her menstrual history was negative except that the menses have been profuse of late. She was never pregnant. After admission, the patient was given tonics and diurectics and was carefully dieted. During operation, which lasted 2½ hours, Schleich's local anæsthesia was used for the first hour and chloroform for the remainder of the time, it only taking six ounces to keep her sufficiently quiet. The only times that the patient complained of pain were when adhesions were divided, when the tissues were pierced by the needle and when the ligatures were tied. There were numerous adhesions which were divided and a trocar drew off a quantity of fluid from some cysts which were present in the tumour. The entire uterus and its appendages were removed, as was also a portion of the abdominal wall on each side of the incision. The tumour was a multilocular fibro-cyst of the uterus; the tubes were greatly elongated and the ovaries considerably enlarged. The patient made an uninterrupted recovery.

Inflammation of the Parotid Gland of Genital Origin.

Dalché, Paul. "Parotidite d'origine génitale a la Ménopause." *La Gynécologie*, August, 1903.

In a recent issue of *la Semaine Gynecologique*, M. Condamin related a case of left sided parotiditis following a case of currettement for a mole, which was followed by local infection. The temperature reached 39.8°C., and the area of congestion and swelling rose as high as the lobes of the ears. On the fifth day, the trouble began to subside and continued to steadily resolve. M. Condamin concludes, first,

that parotitis following an ovariotomy is due to staphylococcus infection proceeding from the mouth in the majority of cases, but the organism may spread by means of the blood-vessels, and, second, that it may terminate either by suppuration or resolution. The prognosis is grave.

A nervous connection has been proved to exist between the genital organs and those of the neck. Operations upon abdominal organs, especially those of the reproductive system, produce an effect through the sympathetic nerve, upon the cervical ganglia which control the secretion of the salivary glands. The diminution of this secretion allows the germs existing in the mouth to travel along the ducts and so to affect the glands.

Case Report:—The patient was a stout woman, 44 years of age. Hot flushes and irregularity of menstruation were followed by a period of three months' amenorrhœa, which in its turn was followed by marked neurasthenia. About a year later, she experienced attacks of pain over the parotid gland, these attacks usually recurring every month, rarely every six or eight weeks. One gland would first become sensitive, then very painful. A few hours later, the gland of the opposite side would go through the same process, the swelling rapidly manifesting itself on both sides, together with redness and the skin shiny and tense. Little or no fever would be present, nor would there by any dryness of the mouth. The patient only complained of pain, which she described as severe and producing a sensation of rapid distension. The condition would disappear at the end of a day or two as rapidly as it appeared. Apart from obesity, neurasthenia and the menopause, the only pathological condition to be observed was a chronic metritis for which she had never been treated; her dentition was not defective and her mouth appeared to be healthy. The inflammation was evidently of an innocent nature, as there never was any tendency to suppuration or other complication, but its frequent repetition showed some persistent cause.

Gout, as a possible etiological factor, was excluded, as the most minute examination of the patient failed to reveal any evidence of the disease. Congestion of the liver, kidneys, intestines, bronchi, etc., as a result of vasomotor changes during the menopause has long been recognized, and it seems that now we have to add hyperæmia of the parotid glands to the list.

Sterilty in the Female.

Doléris, J. A. "Traitement des atrésies orificielles du col uterin." *La Gynécologie*, December, 1903.

Many forms and causes of sterility in the female have been described.

Sims laid great stress upon stenosis of the internal os as a cause and invented metrotomy as a cure, but this has now been abandoned as being ineffectual.

One should take into account the importance of the flexion of the body upon the neck, and at the same time the occlusion of the cervical canal, the abnormal flexion and the induration of the angle of flexion taking part in the atresia. Sims neither ignored nor misunderstood the importance of the flexion, but he paid chief attention to the stenosis.

One often finds a considerable contraction at the external os, this sometimes barely admitting a probe, and again the cervix is conical and elongated with a small opening at the tip. If, in addition, there exist a prolapse of the posterior vaginal wall and an abnormally deep posterior fornix as seen in elderly women, the chances of semen entering the cervical canal are greatly diminished. With these conditions, a cervical catarrh often co-exists.

Sometimes it is only the anterior lip which is hypertrophied forming the taper-like cervix. Stenosis of the internal os is liable to be present, also, from coaptation of the two lips. Lastly, the cervix has a normal formation, but the os is partially closed by an ectropion of the endometrium. In these three forms one sees an aggravated condition of ectropion and catarrh; not but that the atresia may interfere with menstruation or may be a matter of pathological importance, but even if the flow is started and escapes easily, the entrance of the spermatozoa is very difficult if not impossible.

In the above, instead of the intra-cervical mucosa rolling outwards bi-laterally or circularly, the opposite is the case. The vaginal mucosa covers over the ectropion and, by a slow process, forms a cicatricial coating of pavement epithelium which penetrates for several millimetres into the cervical canal. This process of entropion causes a greater degree of atresia than did the previous ectropion.

In treating these conditions, the incisions of Sims have been replaced by progressive dilatation and intra-uterine stems. The slow, repeated dilatation makes the uterus more flexible and brings the muscle into a healthier condition, but it produces no action upon the os externum, in the treatment of which we have either bi-lateral division or some plastic operation. The writer prefers either the removal of a wedge of tissue from each side of the cervix or else Simon's amputation.

F. A. L. Lockhart.

Society Proceedings.

SOCIETE MEDICALE DE MONTREAL.

Meeting of February 23rd, 1904.

Dr. Valin, President, in the Chair.

Dr. Cormier exhibited to the meeting the model of a corset intended for use in cases of scoliosis, for which he claimed the advantages of lightness and solidity.

Dr. Mercier expressed his preference for the old models of leather and steel. Dr. Monod compared it with a celluloid apparatus designed by Ducroquet, and thought Dr. Cormier's preferable. Dr. St-Jacques said that in Germany the celluloid apparatus was much thought of, but it should in reality be used as an adjunct to proper gymnastic exercises.

Dr. Dubé reported a case of right-sided pyonephrosis occurring in a woman 34 years of age, who had had six confinements, with infection following two miscarriages. The patient had been much improved by the use of a preparation well known in France containing several essential oils and resins, but he expressed his preference for surgical intervention.

Dr. Décary reported a case of one of his patients suffering from double pyonephrosis which had been much improved by the use of turpentine and he was strongly of opinion that medical treatment should not be too lightly regarded.

Dr. Monod was not a fanatical believer in operation in every case; he insisted upon the importance of accurate diagnosis and passed in review the various measures that a physician had at his disposal for arriving at a correct diagnosis, namely, the injection of methylene blue, the separation of the urine and catheterization of the ureters.

Dr. O. F. Mercier attached great importance to sensibility in the lumbar region. He had found good results from the use of salol in such cases.

Dr. C. N. Roy read a case report of a patient who presented a primary tubercular tumour in the right nasal fossa. The tumour had been removed by the electric snare, and six months after the operation there was no recurrence. The diagnosis was confirmed by microscopic section and by injection of the substance into rabbits.

Dr. Foucher was of the opinion that tuberculosis of the nasal fossa was common enough, and would be found much more frequently if careful examination were made. He had at that moment three cases under his care, and all were in a fair way to being cured.

The Painters' Union requested the Society to name a committee to

confer with its executive in regard to the adoption of a rule compelling persons who intend decorating their houses to remove the old paper which might be upon the walls, before the new was applied. The President and Secretary were named as a committee for that purpose.

Meeting of March 8th, 1904.

Dr. Valin, President in the Chair.

Dr. Foucher reported a case of blindness caused by drinking a litre of methylated spirit. Blindness was instantaneous and irremediable After a few remarks on amblyopia in general, on its causes and the optical lesions created, Dr. Foucher remarked that it was a danger deserving attention. Methylated spirit mixed in different proportions with ethyl-alcohol was formerly used for commercial purposes, thus rendering it less toxic and consequently less dangerous. To-day, methylated spirit was marketed pure, and a still more dangerous thing was its utilization for the falsification of ethyl-alcohol. Owing to its toxic action and numerous accidents brought about by its use within the last few years, it was important to label this alcohol that the public might be guarded against the dangers from its use, and that in conformity with Dr. Buller's advice, labels should be printed: "This liquid when absorbed internally may cause blindness."

Dr. Lesage asked if it would not be expedient to appoint a committee to look into the dangers through absorption of methylated spirit and the best means of protecting the public.

Dr. Foucher was named President of the Committee with power to choose a sufficient number of members and report.

Dr. Monod read a report of painful flatfoot in a woman about 25 years old; this was followed by a sprain and was greatly relieved by wearing in the shoe a steel sole.

Dr. Martigny read a paper on Uterine Retroversion and its treatment.

Dr. Harwood was not so enthusiastic as Dr. Martigny about the fixation of the uterus by the round ligaments on account of the possible rupture between the abdominal and uterine walls. He favoured indirect fixation, but instead of the suspension by the round ligaments, he preferred Kelly's operation, fixing the peritoneum of the anterior portion of the womb, to the parietal peritoneum.

Dr. Valin announced that Dr. L. Coyteux Prevost, of Ottawa, had accepted the invitation to lecture before the Society on March 22nd. The subject of the lecture would be made known at a later date.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Eleventh Meeting, March 4th, 1904.

H. S. Birkett, M.D., President, in the Chair.

Dr. Lapthorn Smith read a paper on the Association of Appendicitis with Floating Kidney. The paper is printed at page 245 of this number of the Journal.

Dr. Hutchison, in discussion said: Dr. Smith's removal of the entire kidney for pyelitis, giving as a reason the long suppurating convalescence, which very often takes place when the diseased dilated kidney is left, seems a rather broad view to take of the case. My own practice has been to pack the kidney and trust to the dilated condition subsiding, as frequently a fair amount of healthy kidney remains. Later on, if the suppuration continues over a long period, it is proper, I think to remove it; however, I think, in his case the practice of removal was justified. I do not think we can support the view that general peritonitis from appendicitis is always fatal, and the comparison of general sepsis set up by a pus tube rupturing as against general peritonitis by rupture of an appendix, can be explained by the fact that the excretions from the lower part of the intestines are of well known virulence, whilst from a pus tube the pus is almost entirely sterile. That the appendix is very frequently adherent to the right tube is another fact; I have not found it so intimately adherent as in Dr. Smith's cases, but there is well marked connection between the two. It is quite true that a ureteritis may be mistaken for appendicitis, as I had a case recently which was thought to be appendicitis, but it proved to be one of ureteritis rather than any disease of the appendix itself.

Dr. St. Jacques:—I quite concur with Dr. Smith in his remarks upon the difficulty in diagnosis between salpingitis and ureteritis. We have all seen such cases and even when the abdomen is opened one often finds it difficult to say where the abscess had originated. In one case, ill for two weeks, one physician diagnosed salpingitis, another appendicitis and I myself could not decide the origin of the abscess; the pulse was 120, temperature 103½. In this case I found the appendix gangrenous with abscess of the ovary. The patient recovered in four weeks. Another matter of interest is the relative sterility of the pus in chronic salpingitis.

Dr. Lauterman:—I would take exception to the remark that pus coming from the lower portion of the abdomen is sterile. I read, not long ago, an article by Cushing, of Baltimore, in which he reports what was then accepted as the first case of general peritonitis due to gonorrhœal infection in 1899; so that even admitting the low order

of infection that is attributed to gonococci in that situation, it is hardly fair to define it as serile pus.

Dr. St. Jacques:—It is in the chronic salpingitis that the pus is sterile; in the acute form it is very virulent.

Dr. Smith, in reply said:—I have a good deal of faith in the other kidney and I examine it carefully before removing the damaged organ. I think that where a kidney has not been in use for a long time, but is constantly setting up serious conditions, its removal is justified. With regard to the sterility of the pus in the lower region in a case of pyosalpinx, the time comes when the excreta of the gonococci kill the germ. I have myself seen cases of rupture of a pyosalpinx into the abdomen with death whilst other cases recovered; not only gonococci but sterptococci may infect the pelvis.

Dr. J. Alex Huchison presented a case report of Double Tuberculous, Pyo-nephrosis with Calculus, and Dr. John McCrae showed the specimens, and made some observations upon them. The case is reported at page 265 of this number of the Journal.

Dr. St. Jacques showed two specimens, which bore upon the previous case. One was a tuberculous kidney. There had been a family history of well marked tuberculosis, though the bacteriologist failed to find the tubercle bacilli. The case was that of a young woman aged 28, who had had three children, the last one 8 weeks previously, the pregnancy having been normal and the child still alive. Four weeks after her confinement she came to her physician and complained of soreness in her left side. She entered the hospital with a temperature of 101, a pulse of 90, very pale and emaciated and on examination the ureter was found swollen and tender. The day previous to operation the temperature was 104 or a little over, and as she was weakening gradually he advised operation. At the operation he found the kidney so diseased throughout that he removed it entirely.

The other specimen was rather a curiosity and was obtained in the dissecting room of Laval University. The patient died of uræmia in the Longue Point Asylum. Only one kidney was found, and it was dilated and nearly cystic, with a stone obstructing the ureter. There was no scar in the lumbar region nor on the abdomen to show that there had been either a laparotomy or operation in the lumbar region which would explain the absence of the other kidney. The kidney was hugely dilated and contained gelatinous fluid limpid and slightly yellow such as one finds in certain cases of ovarian cysts.

Dr. I. C. Sharp referring to Dr. Hutchison's case said that the man came under his care about two years ago and during that time he had a number of attacks of pain always referred to the right side. He pas-

sed a good deal of pus and blood in his urine, and last spring he passed large quantities of blood and a little pus; no interference was allowed until the condition became as Dr. Hutchison had stated.

Dr. Lauterman thought the best method of estimating the respective power of the kidneys was the catheterisation of the uteters separately; this enabled the surgeon to decide whether to remove a diseased kidney or not.

Dr. Hutchison in reply said he had no personal experience with catheterisation in the male, and he thought only those who did a large genito-urinary practice could be competent to do it with satisfaction; certainly in Montreal the field was too limited. He did not exclude it as a means of knowledge, but it was not available to him.

Dr. F. G. Finley read a case report of Malignant Gonorrhœal Endocarditis, and Dr. McCrae described the conditions found at the autopsy. The case is recorded at page 260 of this number of the Journal.

Dr. Dubé said, at a lecture given in Paris some years ago they were told that they must stop thinking that gonorrhœa was an ordinary thing, and that some day they would see the seriousness of it. He had not, until that night, come upon such a case, and then he was convinced of the truth of the lecturer's remark.

Dr. Smith thought these cases might be more frequent than was generally supposed, though it was rare for one to have the condition confirmed by such an elaborate post mortem examination. Some time ago he reported to the Society two cases of gonorrhoeal rheumatism. From one he removed pus tubes, and was obliged to wait some time before operating, as there was a pronounced heart murmur.

Dr. Abbott remarked that there was an interesting specimen of Dr. Wyatt Johnston's in the Pathological Museum of McGill University, which he had classed as gonorrhœal endocarditis, but after it he had placed a question mark, because he was unable to find gonococci in the cellular tissue. This specimen showed an enormous heaping up on the heart valve so that there was a large mass in the right ventricle as well as a very large formation of inflammatory tissue.

Dr. Lauterman declared that he had treated a great many cases of that description, and was disposed to agree that the condition was more frequent than given credit for. On looking over his notes he was surprised to find that Dr. Finley's case had possibly more of the complications than any he had ever heard of, pericarditis, infarction, erythema, petechiæ, any of which has been attributed to a systemic infection. It was barely possible that the presence of gonorrhœa might not have been observed in the tract, as search for secretion in

the meatus might not be a fair test. He had seen gonorrhœa in cases he thought were free from infection, after the prostate had been massaged and the tract explored with the urethroscope. The lesson this case impressed upon them was to warn patients of the seriousness of the condition, and not allow them after one or two interviews to treat themselves as they think fit.

Dr. Finley in reply said with regard to the frequency of the disease, they had certainly had two cases in Montreal, not a large proportion considering the very common disease which gives it origin. Thayer of Baltimore had two cases, and in both he was able to demonstrate the gonococci during life. Dr. Finley's assistant endeavoured by several methods to find the gonococci but failed; where they had practically no discharge, it was not an easy matter to find gonococci.

Twelfth Meeting, 18th March, 1904.

Dr. F. A. L. Lockhart, in the Chair.

Dr. W. G. M. Byers showed eight pathological specimens of eyes, prepared after a new method:—

(1) Large melanotic Sarcoma of the choroid growing from the lower posterior segment of the globe and showing extensive detachment of the retina on its anterior surface.

(2) Glioma of the retina with perforation of the sclerotic posteriorly and large gliomatous overgrowth about the optic nerve.

(3) The anterior and posterior halves of the eye affected with glioma of the retina. In the posterior half the growth is seen occupying the centre of the vitreous, and in the anterior half dimly through the lens. The dilated pupil and shallow anterior chamber are characteristic of the secondary glaucoma present at the time of operation.

(4) Chronic irido-cyclitis with massive formation of bone in the eye and uveal exudate.

(5)Wound of the cornea, complete detachment of the retina, massive subretinal exudate and retinal cyst.

(6) Atrophia bulbi showing the characteristic "squaring" of the globe as the result of the contraction of the plastic exudate and the pressure on the recti muscles.

(7) Large staphyloma of the cornea following ophthalmia neonatorum.

(8) Atrophia bulbi secondary to wound of the cornea, iris and lens with extensive detachment of the retina and choroid.

Dr. Byers, in explanation of the method said: I bring these specimens before the Society not so much for the interest which

attaches to the conditions as to the method employed in preparing the specimens. The method is one perfected by Greff, of Berlin, and consists in hardening the eye in the usual way, using formalin or Kaiserling's solution, which latter maintains the colour of the blood and that is often desirable in special cases, as sarcoma of the retina. The eye is then sectioned and the specimen mounted on the inner side of the glass by a substance prepared especially, which has a melting point very much higher than summer temperature, so that the specimen is fixed permanently. Gelatin is also used for this work, but the specimens deteriorate, owing to the gelatin being unable to withstand the summer heat. The specimens are allowed to remain until fixed and then a five per cent. solution of formalin, Kaiserling's or alcohol is poured in. For the lid another gum substance is used, heated to a high point. The card holder is attached to the top before it is placed on the jar. All the apparatus can be obtained ready for use, and the specimens can be photographed in situ.

Dr. Hutchison presented a living case of Congenital Dislocation of the Hip, and said in explanation: This child came to the Montreal General Hospital the beginning of November last. A skiagram was taken which showed very beautifully the points brought out by Dr. Lorenz in his recent visit. My own experience extends only to the observation of the two cases which Dr. Lorenz treated here, and I reduced this dislocation precisely as he did. It was done without any of the difficulties usually encountered and took but 15 minutes to reduce. It was noticed that the dislocation would be reproduced, if the leg was brought down below an angle of 90°, but as long as it was kept at the right angle it remained in situ. The first plaster dressing was put on with the limb slightly above the 90°. The child complained for a few days, but after that was quite comfortable, and was well enough to go home, but it was deemed inadvisable to allow it to return with this rather cumbersome dressing, so in December, under anæsthesia and with the assistance of Drs. Hill and Nelson, care being taken to prevent any movement of the head, the knee was now brought down to its present position and placed in plaster. The child was now sent home, and with difficulty taught to use crutches, as he was not five years of age. He has been perfectly well since going home, and now plays about without his crutches. I now propose removing the plaster and taking another skiagram; if we find the position satisfactory we shall send him home. There is now some compensatory curvature of the spine, which has produced level shoulders and the child gets about fairly well without support. One point which Dr. Lorenz advocated, was the placing of strips of flannel through from the

upper to the lower opening of the dressing which can be moved up and down, removing any dried epithelium or moisture and preventing excoriation. This has been found most useful. The skiagram shows the displaced femur with an abnormally small or undeveloped head.

Dr. Elder: The success or failure in replacing these congenital dislocations of the hip, even by Lorenz method, depends upon whether there is an acetabulum or not; in many cases we get a skiagram showing practically none at all, and in addition there may be no head to the femur. Dr. Hutchison's case was a very favourable one, there being a very good acetabulum; when the reduction was done it went back with a click almost as easily as an ordinary dislocation.

Dr. Hutchison, in reply to questions by Dr. McKenzie and Dr. Hamilton, said: With reference to the lateral curvature, and whether the assuming of this position will tend to retain it, I am not conversant enough with the after results of these cases to testify. I think, however, that when the leg is brought down to normal length, and if the reduction is a permanent one and mobility of the hip joint secured, there is no reason why the pelvis should not go back and the spine likewise assume an original position; should this fail, massage or other exercises may be resorted to. With regard to the appearance of the head in the skiagram, I think it assumes this position largely because it is not well developed, though the acetabulum is very well marked. The unilateral deformity I think is the more common form.

Dr. R. Tait McKenzie read a paper on the Relation of Thoracic Type to Lung Capacity, and illustrated it by the living subject, showing the use of various instruments for measuring lung capacity. The paper appears at page 237 of this number.

In the large discussion, which followed the reading of this paper, Dr. Hutchison briefly reviewed the work done by Dr. McKenzie these many years past, for physical training at McGill, and testified to his perseverance and success amidst the difficulties of imperfect gymnasium equipment. Dr. Elder and Dr. Lockhart spoke in a similar strain of appreciation. Dr. Morphy was interested in chest capacity in relation to the production of the singing voice, and referred to the different methods of breathing recommended by the various teachers. Dr. McKenzie was unable to give any accurate information, as he was not aware of any experimental work that had been done upon the subject. Dr. Hamilton made enquiry as to the type of chest, which is likely to contain phthisical lungs, and expressed the belief that it was the puerile type. He was interested in the demonstration, that chest capacity is increased by the drop of the diaphragm, rather than

by the contraction of extra thoracic muscles, and the upward displacement of the abdominal viscera.

Dr. McKenzie said in reply, that the question of the puerile type of chest was an exceedingly interesting one; it was for a long time considered that the consumptive chest was the flat chest, but he could not see why a round chest should be less liable to tuberculosis of the lungs than a flat one. The upward movement of the abdominal viscera in creating a high record for chest capacity was interesting, but it was merely a muscular feat, and was not of very much significance, except that it showed great co-ordination of muscles, which are not usually co-ordinated and much skill in the employment of them.

McGill Undergraduates Medical Society.

JOHN HUNTER—1728-1793.

BY

Gordon M. Hume.

John Hunter was born near Glasgow on the 13th of February, 1728, the youngest of ten children. Throughout his boyhood he was a great observer of nature, but was deficient in self-control, idle and ignorant. He hated school and school-books, nor did he see the good of learning even when at Oxford in the two months he spent there long after his boyhood was over. Years later when he was one of the first anatomists of his time, on being criticised for not understanding the dead languages he said; "I could teach them that on the dead body which they never knew in any language dead or living."

When Hunter was about 20 years of age, he went to London to study anatomy under his brother, William Hunter. He began as assistant in the dissecting room, and was given an arm to dissect. This he did so well that he was soon given more difficult dissections, and in 1749 owing to his wonderful powers as a dissector, he was made demonstrator of anatomy. For ten years he worked at human anatomy, during which time he made himself master of all that was then known, and also made considerable additions.

In 1751, through the influence of his brother he entered St. Bartholomew's Hospital as surgeon's pupil. Here he was allowed to watch grave operations by such great surgeons as Pott and Cheselden. In 1754 Hunter left St. Bartholomew's and went to St. George's Hospital with the object of getting an appointment on the staff. Two years later he was made house surgeon, but he only held this office for about five months.

Shortly after leaving St. George's, being threatened with consumption he contrived to combine change of climate with new opportunities

of experience. He got himself appointed staff-surgeon in the army, and saw service in Portugal. On his return to England in 1763, he wrote a "Treatise on Blood Inflammation and Gun-shot Wounds," which was published the year after his death.

Hunter now began practice, but, as practice came very slowly, he spent most of his time in the dissecting room or among the living animals which he had collected from all parts of the world.

In 1767, he was elected Fellow of the Royal Society, and in the following year he was appointed surgeon to St. George's Hospital.

In 1771, Hunter wrote a "Treatise on the Natural History of the Human Teeth," the profits of which he spent on the expenses of a wedding.

In 1773, he began to give the lectures on the Principles of Surgery, which soon became famous.

In 1776 Hunter was appointed Surgeon-Extraordinary to the King, and the same year he began his "Croonian" lectures on muscular action.

In 1789 he was appointed Surgeon-General of the army and Inspector-General of the hospitals with a large income, almost all of which he spent on his great museum—now in possession of the Royal College of Surgeons. Among Hunter's pupils were Sir Astley Cooper, Abernethy, Clive and Jenner. Named after Hunter we have Hunter's canal of the thigh and the Hunterian operation for the cure of aneurism. These, together with the Hunterian Oration delivered before the Royal College of Surgons on the 14th of February every year, will ever perpetuate the name of Hunter. Hunter died in 1793, and was buried by a few of his friends at St. Martin's-in-the-Fields. In 1859, however, his body was removed and buried with great honour in the north aisle of Westminster Abbey. John Hunter was five feet two inches in height and rather corpulent. In the early part of his life he was a companionable man who drank his bottle, told his story and laughed with the others. An excellent portrait was painted by Reynolds whose friend he was.

Dr. A. G. Belleau, coroner for the city and district of Quebec, died on the 9th of March from anthrax. Dr. Belleau was the nephew of the late Sir Narcisse Belleau, and son of Isidore Belleau and Marcelina Gingras. He was born at Pointe aux Trembles on May 10, 1840, and studied at the Quebec Seminary, Laval University and at McGill, from which he graduated in 1862.

Dr. W. G. Jolicoeur has been appointed coroner of the city and district of Quebec, in succession to the late Dr. Belleau. Dr. Jolicoeur has been acting coroner for the past two years.

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SOME OBSERVATIONS ON THE SURGICAL TREATMENT OF CHRONIC AND ACUTE NEPHRITIS.

BY

A. PRIMROSE, M.B., C.M., Edin., M.R.C.S., Eng.

Professor of Anatomy and Associate-Professor of Clinical Surgery in the University of Toronto.

Operative measures have been adopted by a large number of surgeons in the treatment of chronic Bright's disease during the past two years, and in a limited number of instances relief from acute nephritis too has been attempted by surgical means. A determined effort has been made to test the efficacy or otherwise of surgical intervention, more particularly in the chronic forms of nephritis. There is by no means unanimity of opinion among the members of the medical profession regarding this question, and some would challenge the proposition that there is any significance in the results which have been obtained by operation in those cases which have been recorded. It would appear, however, that in the light of recent clinical experience some very obvious conclusions may be arrived at, and incidentally it may be remarked we have made considerable advance in the surgery of the kidney as the direct outcome of the proposition to treat chronic Bright's disease by surgical means.

A considerable amount of investigation too has been carried on in the laboratory, and a marked stimulus has been given to experimental work not only in determining the results produced by removal of the kidney capsule and by other means of surgical interference which have been suggested, but also in a renewed effort to elucidate the vexed problem of the excretory function of the kidney in health and disease. It must be frankly acknowledged by those who have had any experience in this new method of treatment that we are still in the dark when we attempt to explain the results of our operative interference. It must with equal frankness be admitted that a most profound effect is produced upon the course of the disease and the general health of

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the patient in many instances where surgical interference has been employed. One would urge the importance of recording carefully all cases coming under observation, and a faithful effort should be made to appreciate the true significance of the various clinical phenomena which present themselves.

A little more than two years ago I wrote a paper reporting a case of chronic Bright's disease [1] in which I had operated. I have no doubt the life of this patient was saved at the time, and the subsequent course of the disease was somewhat remarkable. The case was as follows:

A boy, 10 years of age, came under my care in the Hospital for Sick Children in November, 1901, suffering from chronic nephritis. The history of the onset of his illness was obscure, but for six months before he came under my observation he had general anasarca and ascites. During that time paracentesis abdominis had been performed seven times. On admission to the hospital the urine contained 1.6 per cent. of albumin, the abdomen was enormously distended with fluid and there was great swelling of the face and œdema of the extremities. Paracentesis abdominis was performed and 180 ounces of fluid drawn off. The urine, in addition to albumin, contained numerous hyaline, granular and epithelial casts. On November 21st I cut down on the right kidney in the loin and found it much enlarged. I made an incision two inches long through the capsule and subsequently drained the lumbar wound for a fortnight. As a result of the operation the amount of urine secreted in 24 hours gradually increased from 14 ounces in 24 hours to 40 ounces on the seventh day after the operation, whilst the percentage amount of albumin diminished from 1.6 to .8 per cent. The child's condition did not continue to improve, however, and it appeared that permanent relief of symptoms had not been secured. One was encouraged by the profound effect produced upon the condition of the patient by the simple operation upon the right kidney of splitting the capsule, and it was therefore thought justifiable to perform a more extensive operation upon the left kidney. Accordingly, on the 20th December, 42 days after admission to the hospital, I cut down upon the left kidney and removed the capsule in its entirety. The child was critically ill for some days subsequently, and unfortunately contracted pneumonia towards the end of the first week after the operation. We despaired of his life, but he gradually recovered from the pneumonia and the renal symptoms underwent a most remarkable abatement, so that whilst the amount secreted in 24 hours rose to 44 ounces, the amount of albumin diminished to .03 per cent., in fact there remained little more than a mere trace of

albumin, and the casts were also very largely diminished in number. The general œdema vanished and the ascitic fluid was reabsorbed and disappeared. Shortly after this the child left the hospital in apparent good health, having gained remarkably in weight and looking the picture of robust health.

Such was the history of the case as I placed it on record in my previous paper on this subject. The case has been quoted by other writers as a success attained by operation on the kidneys in chronic Bright's disease. I am glad to have this opportunity of recording the subsequent history of the patient. The history of the patient was recorded up to the end of January, 1902, at which time the albumin had dropped to .025 per cent. with a specific gravity of 1011. A few red blood cells and a few casts were visible under the microscope. The patient was kept under observation during the spring and summer of 1902. The urine was tested from time to time, but there was very little variation in the analytical results. On April 1st (4 months after operation), it was noted that there was a mere trace of albumin, and there were no casts found. He gained in weight remarkably so that whilst at the end of February he weighed 43½ lbs., his weight on July 9th was 62½ lbs., representing a gain of nearly 20 lbs., or nearly 50 per cent. of his body weight from the time of the first record. He was discharged from the hospital on September 18th, 1902, in excellent general health, the urine showing very slight departure from the normal. He remained in excellent health without any medicinal treatment or restriction of diet until a year and nine months after operation.

He was readmitted on September 21st, 1903, one year from the date of his previous discharge, with an acute attack of nephritis. He complained of pain in the back and had swelling of the legs, puffiness of the face and some ascites. He passed 25 ounces of urine in 24 hours containing .1 per cent. of albumin and 2.5 per cent. of urea. He was freely purged and put on a milk diet with normal saline rectal injections and hot stupes. He responded promptly to the treatment so that in a few days the œdema and ascites disappeared; the albumin remained about the same. For two months there was not much alteration in his condition. The percentage amount of albumin varied from .056 to .228 per cent. He was discharged from the hospital on November 14th, 1903. A fortnight afterwards he had another attack and he was admitted to the hospital for the third time with a relapse presenting general œdema and other symptoms as in the previous attacks. Since his last discharge from hospital he had been living at the Barnardo Home. It was thought now that as the right kidney

had previously been operated upon by splitting the capsule and not by decapsulation, possibly some further benefit would be derived from decapsulation on the right side.

Accordingly, on December 11th, 1903, two years after the first operation, I cut down on the right kidney, the capsule of which I had previously split. The perirenal fatty capsule appeared normal and was dealt with in the usual way. The postero-external margin of the kidney was found adherent to the postetrior abdominal wall by an adhesion as thick as the little finger and of very firm consistence. The adhesion was so firm that the kidney substance was torn in the effort to free it. The capsule was then stripped off as far as the pelvis and the greater part of it snipped off by means of scissors. The kidney was enlarged, one would say about half as large again as normal; it did not, however, appear to be tense within its capsule. Within a week all signs of œdema had disappeared and the patient's general condition appeared good. The urine, however, contained about 1 per cent. of albumin. On February 13th, 1904, he was given 1000 units of antitoxin, as there had been diphtheria in the ward. The following day he was feeling out of sorts with a temperature of 101 F., with marked puffiness of the face and general anasarca. His diet was strictly limited to milk and farinaceous material, but his condition now became worse than it ever had been. The amount of urine in 24 hours on February 16th was 12 ounces, with a percentage of albumin of 1.5, but he once more recovered his equilibrium and a week after the above note he passed 25 ounces of urine with only .25 per cent. of albumin. He was up and going about the ward with a more liberal diet, and he remained well until March 7th; the day previously the percentage amount of albumin was .4, but on the 7th it rose suddenly to 1.34 per cent, 41 ounces of urine being passed in the 24 hours. Two days later it was 2 per cent. with 32 ounces of urine. On March 12th there was marked œdema and ascites impeding his breathing. He also complained of intense tenderness of the abdomen, he was only passing 15 ounces of urine in 24 hours with 1.4 per cent. of albumin. On March 17th he developed a very curious condition. A red blush appeared over the fibular region of the right leg. This looked very like an erysipelas rash, and it was very tender on pressure. There was a marked thickening of the skin and the region affected was so exquisitely sensitive that he would not allow it to be touched without complaining loudly. This condition disappeared in about two days, but immediately a similar rash appeared on the anterior aspect of the left thigh presenting the same clinical features; the temperature rose to 103.6 F. The patient recovered from these attacks and he has remained in good condition for the past month.

I consider the clinical history which I have just narrated is important, because it was one of the first cases operated on for the cure of chronic Bright's disease (excluding from this category cases of nephritis complicating a movable kidney), and one can follow the case for two years and four months subsequent to operation. The immediate result of the operation was most gratifying, and one might say remarkable, and the prospect of having done the patient permanent benefit was good, but relapses have occurred. No doubt the lad's life was saved by operation at the time of his first admission to the hospital. His general health remained excellent until a year and nine months after the operation, when he had his first serious set-back. He was then readmitted to the hospital with an acute attack of nephritis, which readily yielded to medical treatment. Ten weeks subsequently another acute exacerbation took place and further operative interference was attempted for his relief. The operation of decapsulation which was performed on this occasion was of questionable benefit, for two months later he suffered another relapse which was followed by yet another after an interval of a month. On careful observation of the conditions under which he suffered these acute attacks during the past six months in the hospital it would appear that the acute exacerbations were induced by alterations in diet. As long as the patient was kept upon a diet consisting of milk, cream and farinaceous food he remained free from trouble, but when he was placed on full diet he soon developed serious symptoms. Further, it would appear that the administration of 1000 units of anti-diphtheritic serum induced one of these attacks.

The second case upon which I operated for the cure of chronic Bright's disease was admitted to the Hospital for Sick Children on June 24th, 1902. The patient, a boy 8 years old, had had measles in infancy and diphtheria six months before admission. The first symptoms of kidney disease were exhibited a month before admission, when puffiness of the face developed and general anasarca. The general œdema increased and shortly before coming to the hospital he had ascites. On admission he was passing 16½ ounces of urine in 24 hours, specific gravity 1040, with 1.5 per cent albumin, containing hyaline, fatty, granular and epithelial casts. The patient was placed on milk diet, whilst free purgation and hot packing were employed. No improvement occurred and a month after admission his condition was considered critical. For seven consecutive days previous to operation he had passed an average of 7 ounces of urine daily, specific gravity 1030, albumin 1.3 per cent., containing hyaline, fatty and granular casts. The urea was 2.25 per cent. The right kidney was then operated upon and the capsule completely removed. The kidney at

the time of operation was slightly enlarged and pale; the capsule stripped off without tearing the cortex, there was no marked tension under the capsule. Two days after the operation he had a convulsion His symptoms were not relieved by operation save that the amount of urine increased so that 11 days after operation he passed 17½ ounces in 24 hours with 1.3 per cent. of albumin and 2.1 per cent. of urea. On the thirteenth day after the operation he had a second convulsion when his temperature rose to 107.2 F. He died of uræmia 15 days after operation.

On careful study of this case and the clinical records one finds that calomel was largely used as a purgative during his stay in the hospital. I am convinced that mercurial salts should be interdicted in nephritis, at all events in repeated doses from day to day. There can be no doubt of the fact that calomel thus administered interferes to a dangerous extent with the excretory function of the kidney. The following case under the care of my colleague, Dr. Goldie, is, to my mind, a most convincing picture of cause and effect, illustrating the baneful effects of this drug in nephritis, and hence I venture to quote it: A child, 9 years of age, was admitted for Potts' Disease of the Spine. The temperature range was normal, and the urine normal. On April 23rd he developed headache and rise of temperature, followed in 26 hours by a punctate rash. He was transferred to the infectious ward as a case of scarlet fever. On April 26th the urine contained albumin, red cells and casts. On the 27th of April the throat showed redness and a small patch of membrane on one tonsil. On the 28th hydrarg. subchlor. grs. ½, in divided doses of ⅛th of a grain, was given night and morning owing to the intestinal condition. For over two weeks the urine was that of acute nephritis without any sign of improvement, while the membrane in the throat persisted and spread along the edge of the tongue. No bacilli diphtheriæ were found during this period. An inspection of the order sheet revealed the fact that the single order for hydrarg. subchlor. had been taken as a permanent order. On stopping this, both the kidney and the throat conditions cleared rapidly, both being normal on his discharge froom the infections ward seven weeks later.

The third patient on whom I operated was a boy of 18 years of age, admitted to the Toronto General Hospital on December 11th, 1903, suffering from chronic Bright's disease. Ten years previously he had an attack of post-scarlatinal nephritis, and subsequently an attack of pneumonia. In the autumn of 1902 he was out of sorts, but not until May, 1903, did he develop œdema of the extremities with puffiness of the face, and it was then found that he had Bright's disease. He lived

in a physician's family for three months previous to admission to the hospital, and was kept on milk diet whilst suitable therapeutic measures were adopted for his relief. The urine contained a large amount of albumin and casts, and his condition did not improve. On admission to the hospital he had general anasarca, the temperature was normal, his pulse was 80 per minute with high arterial tension, the heart was normal save an accentuated second sound. The urine contained 8 per cent. of albumin and there were numerous epithelial, hyaline, granular and blood casts; he passed 43 ounces of urine the first 24 hours in the hospital. Five days after admission, on December 16th, 1903, operation was undertaken; decapsulation of the two kidneys was performed at one sitting. The kidneys were markedly enlarged, each of them being nearly half as large again as the normal size. There did not appear to be any undue tension within the capsule; the surface was mottled and congested, and bled freely when the capsule, which stripped readily, was removed. The patient made a good recovery from the immediate effect of the operation.

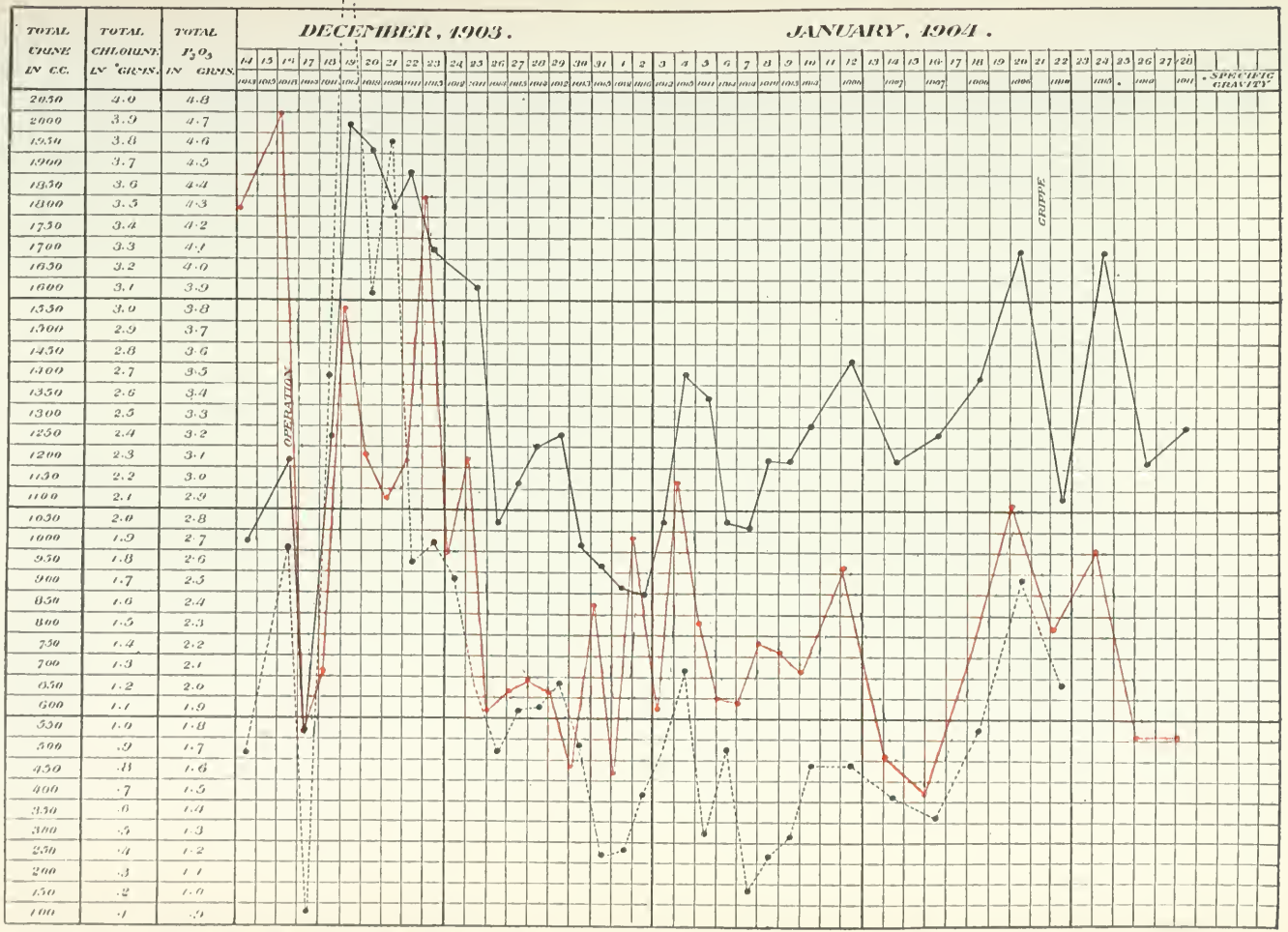
After operation the œdema promptly disappeared. The immediate effect on the kidney function is indicated, if we compare the analysis of the urine two days previous to operation with that recorded three days subsequently. We find that the amount of urine voided was doubled, the specific gravity remaining unchanged. The percentage amount of albumin was reduced from .84 to .28 per cent., whilst the total amount of albumin passed in 24 hours was reduced from 8.568 grammes to 5.686 grammes. The percentage amount of urea was unaltered, but the total amount in 24 hours was increased from 17.85 grammes before operation to 36.354 grammes at the period indicated after operation. There was remarkably little variation in the specific gravity of the urine. The chlorides, as calculated from the total chlorine, were not markedly affected as far as the total quantity excreted was concerned, thus 3.53 grammes of chlorine before operation and 3.06 after. The percentage quantity, however, fell from .34 before to .15 after operation. A much more remarkable result was observed in connection with the phosphates as measured by the amount of phosphoric acid. Thus, whilst the day before operation the amount of phosphoric acid was 2.736 grammes, the amount dropped suddenly to .965 grammes the day after operation, and then rapidly rose to 3.538 grammes on the second day, and 5.86 grammes on the third day after operation. This effect was a very evanescent one, as within a week the phosphates had returned to the amount excreted prior to operation. The significance of this remarkable drop and subsequent increase in the phosphates is not very apparent, but it is certainly worth recording.

Further, in connection with this case it may be observed that the operation had no permanent effect upon the secretory power of the kidney as regards phosphates and chlorides. I am not aware of observations having been made regarding this point by others, but it is an important one in my estimation. I have represented the analyses from day to day in the charts which I publish herewith indicating the variations in albumin, urea, phosphates and chlorides, etc. The chart indicating the daily amount of urine and albumin may be compared with the one I publish in the report of my case of 1901, and it will be found that the effects of operation on the amount of albumin in these two cases have been very similar.

After operation in the case which I have just recorded the number of casts diminished greatly, so that two weeks after there were almost no casts, but for the subsequent five weeks there was considerable variation and this continues so that now, four months after operation, there are still casts present in the urine—hyaline, granular and fatty—but they are never in as large numbers as they were immediately prior to operation. The amount of albumin has remained greatly reduced, but it is still present and occasionally in considerable quantities. Usually about .2 per cent. is present, but recently, when attempting to transfer him from a simple to a more substantial form of diet, including meat, the amount of albumin increased to .4 per cent. One would have anticipated this immediate result, but I hope that the equilibrium will be re-established as is shown by Von Noorden [2] to be the case frequently in cases of Bright's disease when change of diet of that kind is made. The patient's general health is greatly improved since operation and there has been no indication whatever of any return of the œdema. It is too early, of course, to predict the final outcome of the case.

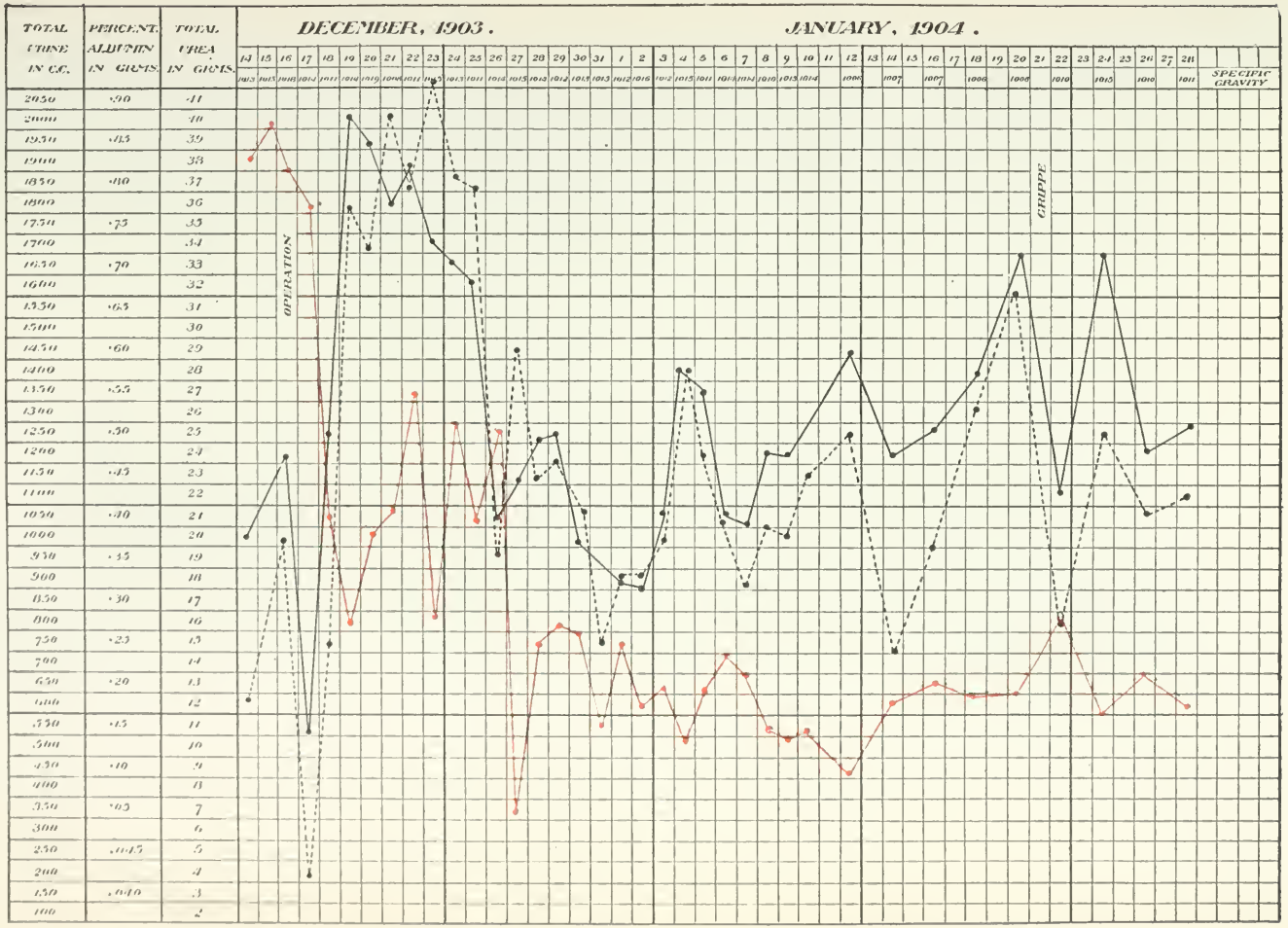
Returning for one moment to the observations on the phosphates and chlorides, let me remind you that clinicians are not in the habit of making observations regarding these urinary constituents. Von Noorden would have us believe that phosphates are excreted with difficulty by the kidney in disease, whilst chlorides are well excreted. My charts certainly indicate that the excretion of phosphates was most markedly affected by my operative procedure, whilst the excretion of chlorides was not perceptibly interfered with. A paper has been published recently by Eugen v. Koziczkowsky of Kissingen,[3] in which he holds as the result of extensive observation that in health and on a fixed diet the percentage amount of these salts varies with the quantity of urine excreted, whilst the total amount excreted in 24 hours shows but slight variation. In certain cases of nephritis, however, things are

AMOUNT OF URINE CHLORIDES AND PHOSPATES IN 24 HOURS



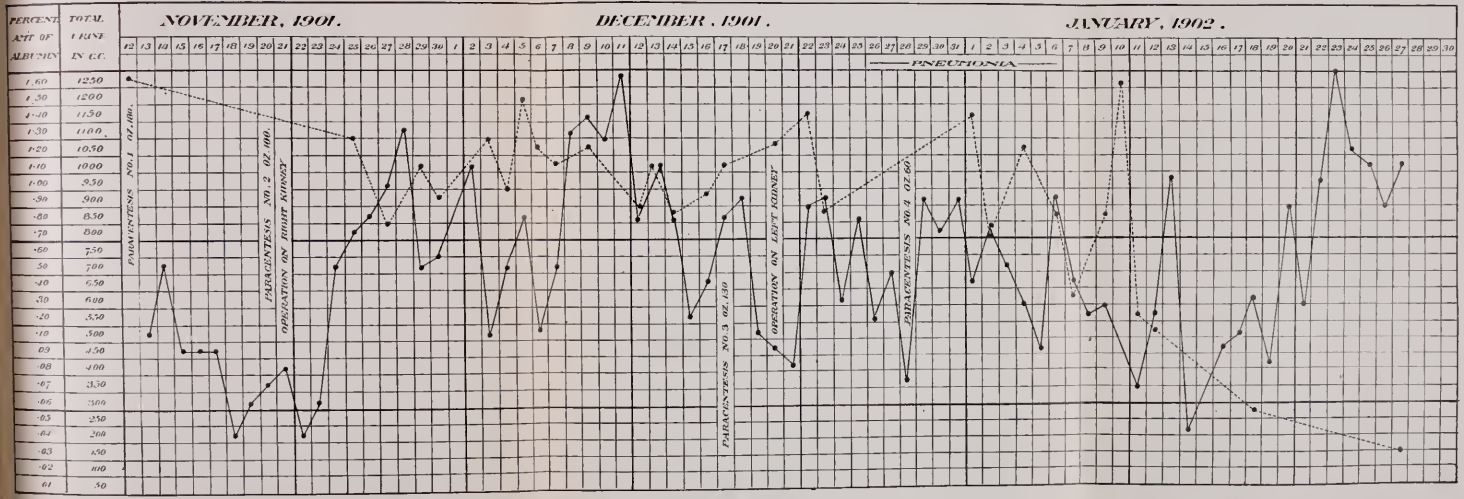
IN THIS CHART THE CONTINUOUS LINE INDICATES THE DAILY AMOUNT OF URINE, THE DOTTED LINE THE AMOUNT OF PHOSPHATES AND THE RED LINE THE AMOUNT OF CHLORIDES.

AMOUNT OF URINE AND UREA IN 24 HOURS WITH PERCENTAGE AMOUNT OF ALBUMIN



IN THIS CHART THE CONTINUOUS LINE INDICATES THE DAILY AMOUNT OF URINE, THE DOTTED LINE THE AMOUNT OF UREA AND THE RED LINE THE PERCENTAGE OF ALBUMIN.

AMOUNT OF URINE IN 24 HOURS AND PERCENTAGE AMOUNT OF ALBUMIN



IN THIS CHART THE CONTINUOUS LINE INDICATES THE DAILY AMOUNT OF URINE IN CUBIC CENTIMETRES AND THE DOTTED LINE THE PERCENTAGE OF ALBUMIN.

different. The percentage amount and the total amount of chlorides passed in 24 hours will vary within limits largely corresponding to the variations in the amount of urine passed. Increase in the amount of urine means increased percentage of chlorides, and therefore increased total amount excreted, whilst diminished amount of urine has the reverse effect. The behaviour of the phosphates in these cases is, however, more complex, for it is found that with diminished amount of urine and therefore with retention of the chlorides there was a greatly increased excretion of phosphates, whilst on the other hand, when diuresis had been induced, the resulting increase in the chlorides was accompanied by a diminution in the phosphates.

The fourth case which I now record belongs to that class of nephritis which complicates a movable kidney. The history of the case is as follows: A single woman, 32 years of age was admitted to the Toronto General Hospital complaining of pain in the region of the right kidney and frequency of micturition. The urine contained albumin, and in addition granular and hyaline casts, there were also found under the microscope red blood cells, pus cells and some oxalate of lime crystals. The right kidney was found to be movable and was tender on palpation. The presence of a renal calculus was suspected. Operation was performed on December 9th, 1903. The right kidney was exposed and presented a normal appearance when brought into the wound. It was split along the convex border and the pelvis explored, but no calculus was found. The capsule was then stripped back towards the pelvis so as to denude the outer half of the kidney, and then the organ was fixed in place by suture after the manner suggested by Edebohls.

Subsequent to the operation the albumin almost entirely disappeared from the urine; there is still an occasional trace, but in most specimens examined since operation, it has been entirely absent, casts have entirely disappeared; pus cells are still found, however, as a constant constituent, and occasionally red blood cells, whilst the urine remains acid in reaction. The case illustrates the type of movable kidney with casts and albuminuria which, when submitted to operation for fixation of the kidney, results in the disappearance of the albumin and casts.

The fifth and last case to which I wish to refer is one of calculous nephritis. The patient, 21 years of age, was operated upon quite recently (March 12th, 1904). The previous history of the patient showed that she had suffered from symptoms of stone in the kidney at at intervals since she was six years of age, was operated upon quite recently (March 12th, 1904). The previous history of the patient showed that she had suffered from symptoms of stone in the kidney at intervals since she was six years of age. Latterly she was subject to

frequent attacks of renal colic. Examination of the urine has been made at intervals since October, 1900. There is no record of casts having been found at any time. A trace of albumin was usually present. Oxalate of lime crystals, a few red blood cells and usually many leucocytes were found. The specific gravity varied from 1020 to 1032. In a few specimens nothing abnormal was detected. The patient was referred to me by Dr. McPhredan for removal of a stone from the left kidney.

The kidney was exposed in the usual manner by an oblique incision and brought into the wound. A calculus was felt in the pelvis. The kidney was split along its convex border, and when the pelvis was reached a mulberry calculus of oxalate of lime, weighing two grammes was extracted. The bleeding from the kidney was profuse at the time of operation, and it became necessary to place a tampon of gauze in the kidney wound. The patient made an uninterrupted recovery from the effects of the operation, and has suffered no renal colic since. For the first 24 hours after the operation she passed $25\frac{1}{2}$ ounces of urine, and the following 24 hours 30 ounces. The urine had a specific gravity of 1025, it was acid in reaction and contained albumin and blood. There were also granular casts and red blood cells under the microscope with numerous pus corpuscles. The subsequent post operative course was very different from that observed in chronic Bright's disease. In this case of calculous nephritis the percentage amount of albumin at first increased rapidly and then diminished much more slowly, whilst the operation had little or no effect upon the amount of urine secreted from day to day. In the course of three weeks, however, the albumin eventually fell from 1 to .01 per cent. The amount of urea increased markedly after operation, so that four days after operation there is recorded 3.6 per cent. of urea, but a week after operation it was 1.9 per cent., and it remained low subsequently, the daily record for the remaining two weeks of observation being on an average about 1.4 per cent. This urea output was extremely low, when one takes into account the small quantity of urine secreted representing in fact one-third of the normal amount. The general health and nutrition appeared to be excellent, however, and she left the hospital for her home four weeks after operation.

Before proceeding to discuss the significance of the results obtained in these cases let me enter a protest against the suggestion that ether should be the form of anæsthetic used in such operations upon the kidney. There can be no doubt that ether is a powerful irritant of the kidney when administered as an anæsthetic. This fact has been clearly shown by Dr. Chace [4] of the New York Post-Graduate Medical

School and Hospital in a record of 125 consecutive cases of the analyses of the urine in ether anæsthesia. All operations on the kidneys were excluded because it was noticed that such cases developed a more severe form of nephritis than one would expect from the anæsthetic. One hundred of the patients had normal urine before operation, and of these no less than 77 had albumin in the urine after operation. Of these 77, there were 65 with casts as well as albumin. The 65 cases with casts exhibited in 20 cases hyaline casts only, 28 hyaline and finely granular casts, 15 hyaline and finely and coarsely granular casts, whilst in 2 there were hyaline, granular and epithelial casts and blood. Of the 25 cases in which the urine was abnormal before operation, the symptoms of kidney trouble were exaggerated after anæsthesia. In ten of these cases, for example, where there had been a mere trace of albumin and no casts before ether there were found hyaline and granular casts after anæsthesia; of the 125 cases two died of suppression of urine. Chloroform was administered in all my cases, and I am convinced it is the safer anæsthetic.

The effects produced by the different methods of dealing with cases of nephritis have been widely discussed and some experimental work has been done to endeavour, if possible, to determine the structural changes in the kidney and its immediate surroundings as the result of splitting the capsule or after capsulectomy. Within the last few months I operated upon a number of dogs in order to satisfy myself regarding the effects thus produced. One can very readily demonstrate that the capsule is rapidly reformed after its removal in the dog. In fact I can show you a specimen which to the naked eye appears as if a delicate new capsule were formed 24 hours after removal. The explanation of such a startling result is quite simple. Dr. Johnson [5] of San Francisco stated some time ago that the renal capsule in a dog consisted of two layers, the outer of which is the thicker. In decapsulation the outer layer comes away leaving the inner layer lacerated, but still adherent. The reason one finds that the kidney appears to have a new capsule, if it is examined as short a time as 24 hours after operation, is that the traumatism to which the kidney surface has been submitted produces promptly a considerable amount of exudate and the capsule which appears so rapidly is largely composed of fibrin. But this is not all, because if you examine this new capsule formed after 24 hours you find fully formed fibrous tissue scattered through it, and leucocytes in addition. The exuded material has opened up the fibrous tissue of the remaining inner layer after decapsulation, in other words this layer becomes swollen and by van Gieson's method of staining one can demonstrate that this newly formed cap-

sule has quite a little fibrous tissue lying in it, whilst it is very cellular.

It is stated that this newly formed capsule becomes more and more strongly developed until at the end of two months it is thicker than the original capsule, whilst at the end of 3½ months it is differentiated into two layers again. In the dogs on which we have operated the fact that the capsule is thus reproduced was demonstrated.

To Dr. T. D. Archibald of the University Pathological Department, I am indebted for the record of the post-mortem conditions found. In addition to this Dr. Archibald made the numerous analyses of the urine which are necessary, and described the histological changes in the dog's kidneys. To detail shortly the results of these experiments I may state as follows:

No. 1. In a dog killed 24 hours after capsulectomy the kidney was covered by a membranous structure resembling somewhat in gross appearance the normal kidney capsule, but it varied in thickness, in some places it was thin, bluish-white and glistening, in others more yellowish in colour and rougher. In places it appeared to be augmented in thickness by adherent peritoneum.

No. 2. A dog which died of sepsis four days aftetr sapsulectomy showed much the same gross appearances on the surface of the denuded kidney. There had been an abscess in the muscular wall of the back.

No. 3. A dog killed seven days after capsulectomy showed a well-marked capsule surrounding the kidney which had been operated on. The kidney was adherent to all surrounding structures.

No. 4. A dog killed 11 days after nephrotomy: The kidney had been split along its convex border and the incision carried through to the pelvis. The wound in the kidney substance had healed, but a scar was found along the convex border and this was adherent at one point (about its centre) to the right portion of the liver. On section a yellowish white scar was found penetrating the kidney substance to the pelvis with small hæmorrhagic areas on each side.

No. 5. A dog killed 13 days after capsulectomy. The kidney was adherent anteriorly to the liver and the diaphragm, whilst posteriorly it was adherent to the diaphragm and the transversalis muscles. A well-marked capsule surrounded the organ and blood vessels could be readily observed with the naked eye running in this adventitious covering.

No. 6. A dog killed 33 days after the operation of capsulectomy. The kidney was adherent to the right portion of the liver, to the right tube and ovary, and to the great omentum. A distinct capsule was present. It was yellow in colour and was very tough and stripped with diffi-

culty, leaving a very rough torn kidney surface. The capsule was considerably thicker than normal.

I think we may assume from what we know of the structure of the capsule of the human kidney and from the results of experiments on dogs that the denuded kidney is enveloped in a new and probably more unyielding capsule after three or four months have elapsed than was the case before operation. Boncz-Osmolowsky,[6] in experiments on dogs, described an interstitial change in the kidney substance which developed very rapidly after removel of the kidney capsule. Twelve days after capsulectomy he describes a granular roughening of the kidney with a thick development of connective tissue on the surface; this connective tissue penetrated into the substance of the kidney somewhat so as to compress the renal tubules lying superficially and the Malpighian tufts lying in the outer part of the section. Marked changes occurred in the cells of the renal tubules and of the glomeruli. The kidney tissue therefore in the peripheral portion of the organ is highly altered according to this observer.

In addition to the observations made on the reformation of the kidney capsule Dr. Archibald made careful analyses of the urine passed by the dogs operated upon. Excluding for a moment from our summary, dog No. 1, which was killed 24 hours after operation, we may make the following statement regarding the effect of operation on the urine in the other cases. In these five dogs the urine was normal before operation, and in all of these there was albumin present for three days subsequent to operation. The amount of albumin was small in most instances, but in the dog submitted to nephrotomy it was higher (.13 per cent) than it was in the dogs submitted to capsulectomy (.025 to .06 per cent). From three to four days after operation blood was present in the urine in all five cases, in the nephrotomy case blood was present in large amount for the first 24 hours, but there too it had disappeared after four days. Pus and epithelial cells were also present in all cases, but they disappeared with the albumin and blood. In all of these cases there was a notable diminution in the amount of urea excreted for some days after operation.

Dog No. 1, had interstitial nephritis before operation. The urine before operation contained hyaline and granular casts, and a few pus and epithelial cells, but no albumin. The day after operation there was still no albumin, urea had diminished from 5.5 to 1.85 per cent, there was a little blood and pus under the microscope. A very few hyaline casts were found. At the time of operation a piece of this dog's kidney was removed for microscopic examination and was found

to present the features of a typical case of interstitial nephritis. The absence of albumin in this case after operation when its presence was always found after operation in the dogs with normal kidneys is worthy of note.

The histological findings in these dogs may be briefly alluded to. In every case sections were cut from the kidneys which had not been operated on as well as from those on which capsulectomy or nephrotomy had been performed. In the case of the former, sections of portions from which the capsule had been removed post mortem were compared with sections where the capsule was left intact. In all cases where it had been stripped a portion of the capsule remained behind, enveloping the organ with a thin covering of connective tissue. Twenty-four hours after capsulectomy the remaining inner layer of the capsule was swollen and œdematous with deposition of fibrin and exudation of leucocytes between the fibres. Four days after capsulectomy the remaining capsule was extremely cellular, the connective tissue fibres showed active proliferation and many new blood vessels were present. Seven days after capsulectomy there was found active proliferation of connective tissue and numerous new blood vessels. In places adhesions were forming between it and the fatty capsule. Eleven days after nephrotomy the wound in the kidney substance was entirely filled by granulation tissue. There was a slight exudation on the surface of the organ adjacent to the incision which was likewise becoming organised. Fourteen days after capsulectomy there was a capsule on the surface of the kidney almost as thick as the normal but much more cellular and outside this a looser, but thicker layer of connective tissue connecting it to the liver. There were several blood vessels of considerable size in this looser connective tissue layer. Thirty-three days after capsulectomy similar appearances were found, but the new capsule was less cellular and the layer of connective tissue joining it to the liver much firmer and the size and number of blood vessels in this layer diminished.

Referring for one moment to the occurrence of nephritis in patients suffering from movable kidney, Newman,[7] of Glasgow, was, I think, the first to demonstrate the fact that cases of Chronic Nephritis complicating movable kidney could be cured by nephropexy. His results were published in January, 1896. Edebohls[8] would minimise Newman's work in this direction and disposes of his claim to priority in suggesting surgical means for the cure of chronic nephritis in movable kidney by stating that these cases "are not claimed by Newman as cases of chronic nephritis." By reference to Newman's paper it will be observed that he reported the presence of albuminuria and tube

casts in both cases operated upon; what further clinical evidence is required, we ask, to establish the presence of chronic nephritis in such cases? Or what additional clinical evidence had Edebohls himself in establishing the diagnosis of chronic nephritis in many of the cases reported as such by himself? Reginald Harrison,[9] in October, 1896, whilst writing on this subject, referring in this paper to three cases of nephritis which he had operated upon and had reported in January, 1896,[10] speaks of Newman's cases in the following terms, he says, "Both of these cases appear to me to have an important bearing both upon the pathology and treatment of albuminuria." About three years after the appearance of the papers by Newman and Harrison, Edebohls published a paper entitled "Chronic Nephritis affecting a Movable Kidney as in indication for Nephropexy."

Newman's cases would go to show that it is not necessary to remove the capsule in order to effect a cure in these cases of chronic nephritis complicating movable kidney, but that the urine becomes normal after fixation of the kidney. The question involved here, however, is not of much importance in determining the form of operation, because fixation is more definitely secured in my estimation by partial stripping of the capsule than by the mere introduction of sutures without stripping.

The writer is inclined to believe that the occurrence of chronic nephritis in movable kidney is closely related to so-called cyclic or orthostatic albuminuria. My friend, Dr. G. A. Sutherland,[11] has made extensive observations on this form of albuminuria and would have us believe that there is no connection between nephritis with albumin and casts (as in chronic Bright's disease) and albuminuria without casts. This view has been held by most authorities, I believe, since the condition was first described by Pavy,[12] in 1885. One does not hold for a moment that a marked distinction is not to be drawn between cyclic albuminuria and chronic Bright's disease. In the latter disease there must be degeneration and destruction of the renal epithelium, which does not occur in the former case. It would appear reasonable, however, to suppose that whilst the majority of cases of cyclic albuminuria eventually go on to spontaneous recovery there are probably a certain number of cases which eventually develop a true organic nephritis as the result of faulty nutrition. Sutherland finds that cyclic albuminuria is a disease arising during early adolescence and after that period of life is passed the trouble either disappears or persists indefinitely.

Sutherland[13] has written a paper with the object of pointing out

the circumstance that orthostatic albuminuria is frequently accompanied by movable kidney. He finds that in the cases he reports of this trouble in children and young adults no less than 35.5 per cent had movable kidney as a complication. My own observations and those of others would go to show that movable kidney is not infrequently complicated by chronic nephritis in adults. Is it not extremely probable that Sutherland's cases of movable kidney with cyclic albuminuria in children and young adults occasionally develop into the movable kidney with chronic nephritis in the adult? If this be so then, knowing the relief which is attained by fixation of the movable kidney in the adult suffering from chronic nephritis, we have a strong argument in favour of operating for fixation of the kidney in those cases where the cyclic form of albuminuria persists with movable kidney after adolescence. Sutherland further admits the possibility of nephritis as a complication in these cases and further states that "complete recovery frequently follows an attack of nephritis in childhood," a remark which has a bearing on some observations which I shall make later on.

The result of operation upon the nephritis of movable kidney is entirely satisfactory, and we can confidently predict a cure in the majority of such cases submitted to operation. Not so with chronic Bright's disease, however, we have a question here which is by no means settled. Let me say here that I am not one of those who advocate decapsulation of the kidney as a measure to be adopted indiscriminately in Bright's disease. We cannot, however, close our eyes to to the fact that a very remarkable effect can be produced by operative interference in such cases. I am of opinion that we will sooner or later arrive at the conclusion that in a certain class of cases relief is to be expected from surgical interference. The limitations of the operation are far from being set at present, but I consider the attitude of the individual who stigmatises the operation as useless is just as unreasonable as that of the individual who advocates operation as a curative agent in all cases.

As the result of a series of laboratory experiments in which he sought to disprove Edebohls' theory as to the increased vascular supply to the kidney after decapsulating, Dr. J. M. Vancott,[14] of Brooklyn, recently stated at the Medical Society of the State of New York that "Dr. Edebohls' theory regarding renal decapsulation for the cure, or even the relief, of nephritis must fall to the ground." The attitude reminds one of the story of a well-known Scotch professor who mathematically proved in his laboratory that a man of definite height and length of arm could only drive a golf ball a de-

finite distance. The calculation having been made with mathematical accuracy the professor's son went to the links and drove the ball several yards further than the appointed distance. The fallacy in Dr. Vancott's argument lies in the fact that he has, or thinks he has proved Edebohls' theory to be incorrect. But supposing we grant Edebohls' theory to be erroneous, that does not by any means disprove the assertion that decapsulation of the kidney may act in a beneficial manner upon the diseased renal tissue in chronic diffuse nephritis. Nor will it do to urge that because diseased kidney tissue is merely a local manifestation of a general condition therefore operation on the kidney is incapable of effecting a cure. One might just as well argue that in an individual suffering from pyæmia no relief could be obtained by opening an abscess which may be a local manifestation of the general condition. Regarding the correctness of Edebohls' theory that the beneficial results of his operation are to be ascribed to increased blood supply to the cortex of the kidney, one has been sceptical from the outset. In my paper published two years ago I stated that to my mind Edebohls' theory was not satisfactory. I am still inclined to believe that Harrison was correct when he ascribed the results to relief of renal tension. At first glance my position might seem illogical because I have recorded in each of my cases that I have not found the capsule tense. My view, however, is that tension within the capsule is in all probability of intermittent occurrence in chronic nephritis; acute exacerbations are characteristic of the disease, and in these acute exacerbations there is probably great tension within the capsule. Now after removing the capsule the kidney may enlarge without undue tension and thus serious consequences are not so likely to occur as would be the case were the capsule intact. True, the capsule may reform, but in the meantime reparative processes may have advanced sufficiently to have produced some permanent benefit. Again it has occurred to me that an acute nephritis engrafted upon a chronic form may act beneficially. I have just quoted the observation of Sutherland that cyclic albuminuria frequently disappears after an attack of acute nephritis. In this connexion too it may be noted that there is abundance of clinical evidence to show that cases of chronic nephritis undergo spontaneous cure occasionally. My colleague, Dr. Rudolf, has given me the clinical notes of a patient under his care 40 years of age who had albumin, blood and many casts in his urine in August, 1900. Since that time he has been under observation every week. In December, 1903, the albumin which had been gradually diminishing disappeared. Since then there has been an occasional trace, but now there is no trace of albumin. He has been

on a limited diet and suitable medicinal treatment. It has been found occasionally that an individual suffering from chronic nephritis gets rid of his trouble after some intercurrent acute illness, in fact one of my critics suggested that my first patient recovered as the result of an attack of pneumonia which followed operation rather than as the result of the operation itself. It is possible that the acute exacerbation which occurs so frequently in chronic nephritis may be beneficial under certain conditions, if this be admitted then the acute attack may be more likely to effect a beneficial effect when the capsule has been removed or split than when the capsule is intact. Under these circumstances Hallsen's view that benefit results when tension is relieved or prevented would be reasonable. On the other hand with the capsule intact the acute attack may cause undue tension and the kidney function is held in abeyance and the patient may die of uræmia. One further suggestion I would like to advance is that the operative procedure may produce if not an acute nephritis at least a hyperæmia which may act beneficially when the capsule is split or removed. One finds evidence of this in hæmaturia after the operation, although this is not invariably present. In the experiments on the dogs with normal kidneys, I found that blood and albumin invariably appeared in the urine and kept up for from three to four days after operation. The objection may be raised that the effects produced may be different when one is dealing with a diseased kidney, and therefore one cannot deduce arguments from operations in dogs with normal kidneys. This objection is well taken, and as a fact in the dog with interstitial nephritis there was no albumin in the urine after decapsulectomy, this being the only exception. There was blood, however, in small amount. Further observation on this point will be intersting and I am looking forward with interest to the results of Dr. Walker Hall's[15] investigations on the effect of decapsulation on kidneys in which a degenerative nephritis has been induced. A brief reference is made to Dr. Hall's communication to the Manchester Medical Society in the *British Medical Journal* of March 12th, 1904.

I may remark in passing that the theory which I have here advanced would explain the relief of symptoms in those cases where a calculus has been suspected, but where, after nephrotomy, none is found.

I have referred in this paper to a case of calculous nephritis, and I have done so with a special object in view. This condition readily yields when the local trouble is removed but you will observe by reference to my report that the effect of operation here was very different from that recorded in my cases of chronic Bright's disease, thus in

the latter there was a very prompt drop in the amount of albumin after operation, whilst in the case of calculous nephritis there was as marked a rise in the amount of albumin immediately after operative interference. This result tallies with that obtained in the dogs with normal kidneys. In such cases there is probably very little damage to the renal epithelium prior to operation and the effect of nephrotomy is probably very similar to that which would be produced on the normal kidney. These results would still further strengthen one in the opinion that theories formed on the effect of operation on normal kidneys in the laboratory must be taken with reserve when used to explain the results obtained in operating in chronic Bright's disease.

Lastly in this connection let me state that the function of the renal capsule has not yet been taken into account in all its possible bearings on the question. Emerson and Meltzer [16] have concluded as the result of a series of experiments on dogs that "the normal capsule of the dog's kidney serves the function of preventing the absorption directly through its substance of fluids in which it may be bathed, whereas when the capsule is removed, for a short time after, absorption of fluids may occur into the blood stream through the parenchyma."

Levin, of New York, at the recent meeting of the American Association of Pathologists and Bacteriologists, made a preliminary report on a series of experiments which he is carrying out on the function of the kidney capsule in dogs. He has been making some observations on the variation of the kidney volume by oncometer methods. By means of sphygmographic tracings he studied the pulsations of the kidney comparing them with the pulsations of the carotid. He found that pulsation ceased in the kidney when it was decapsulated and he concludes that the capsule performs other functions in addition to those common to the capsule of other organs, and that it in all probability is an elastic covering which expands and contracts with the needs of the organ acting in a way as a safety valve. From the results of his experiments he is inclined to question whether the operative value of decapsulation is not less than that of nephrotomy without decapsulation.

In discussing the form of operation employed in these cases it would appear that very similar results are obtained after decapsulating or splitting the capsule or in nephrotomy. Stern,[17] (Dusseldorf), records cases relieved by nephrotomy and advocates it in chronic interstitial nephritis where internal medication fails to relieve the condition. Pousson [18] advocates nephrotomy in chronic nephritis with much hæmorrhage, and has also performed nephrotomy successfully in two cases of chronic nephritis, because of uræmic phenomena.

Luxardo [19] also advises nephrotomy. Harrison advises splitting the capsule alone. Edebohls cuts the entire capsule away. Personally, I would be inclined now to advocate partial stripping of the capsule so as to leave one-half the surface still covered by normal capsule, this would relieve tension and would prevent any ill effects which might later be produced by confining the kidney wholly within the dense unyielding capsule which it has been alleged forms in course of time.

There is a large amount of clinical evidence now available for study in connection with the surgical treatment of nephritis. Guiteras [20] as early as November, 1903, published the results of 120 cases which he had collated from the literature. One must say, however, that it would seem rather premature to calculate the percentage of cures in these cases as Guiteras has done. The operation is too young to pronounce as to permanent results. This fact is illustrated by the relapses which have occurred in the patient which I operated upon in 1901, who remained in excellent health for a year and nine months, and then relapsed.

As to the indications for operation in chronic nephritis I think we cannot as yet pronounce very definitely. Personally I would not entertain the idea of operating in chronic Bright's disease where the patient is in good general health, and where there is no indication of progressive failure of kidney function. Where, however, medicinal and dietetic treatment fails to check the progress of the disease, and when serious symptoms manifest themselves, we are justified, I believe, in attempting to obtain relief by surgical means. It is possible that the time will arrive when we will be able to select cases for operation at earlier stages of the disease, but I do not think we have yet determined the early symptoms which warrant such measures.

The question of operating in acute nephritis I will dispose of in a few words. Hitherto we have allowed patients to die with suppression of urine in acute nephritis without attempting to secure relief by surgical means. Sufficient clinical evidence has been accumulated to warrant us in the conclusion that relief may be obtained in certain of these cases by surgical means. Harrison long ago (in 1896) made the reasonable suggestion that such cases could be saved by splitting the capsule of the kidney. As early as 1878 he operated successfully by nephrotomy in a case of post-scarlatinal nephritis. Edebohls [21] operated a year ago by renal decapsulation in puerperal eclampsia of renal origin. The patient had five convulsions before forced delivery at the end of the eighth month, then freedom for 46 hours, and then six more convulsions in 18 hours, after which decapsulation was performed; the convulsions did not recur and the patient recovered.

In conclusion I may reiterate my statement that cases of movable kidney with albuminuria and casts should be submitted to operation with, I believe, excellent prospects of effecting a cure. The question of the advisability of operating in chronic Bright's disease is still not definitely settled, but I think experience has proved that we have here a very potent method of affecting the course of the disease, and I feel convinced that sooner or later we shall learn how to employ that method for the permanent benefit of our patients.

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OTOMYCOSIS DUE TO THE ASPERGILLUS GLAUCUS.

BY

HERBERT S. BIRKETT, M.D.,

Professor of Laryngology, McGill University, Laryngologist and Rhinologist to the Royal Victoria Hospital,

AND

ALBERT G. NICHOLLS, M.A., M.D.,

Assistant Professor of Pathology, McGill University, Montreal.

Considerable interest has of late been evinced in certain diseases which have been found to be due to various forms of moulds. The pathogenicity of fungi, apart altogether from the innumerable varieties of bacteria, such as the actinomyces, the organism of Madura Foot, and the streptothrix, has for years been well-recognized, and we are beginning to realize with increasing force that other forms which have ordinarily been regarded as harmless can on occasion give rise to disease processes. Among these may be instanced the aspergillus which is the cause of pneumonomycosis, a disease closely resembling chronic tuberculosis. It causes also a form of otitis, and has been discovered by an Italian observer in pellagra. It is somewhat remarkable, considering the great abundance of such moulds in nature, that they should so rarely cause trouble, and in fact some controversy has taken place as to whether aspergilli when present in disease processes should be regarded as true parasites or merely as accidental saprophytes. It can, however, hardly be denied in view of recent experimental work that the aspergilli are pathogenic, at least for the ordinary laboratory animals, and by inference for man, and it can only be that their pathogenicity is of a low grade, or that it can be evinced only under a peculiarly fortunate or unfortunate concurrence of circumstances.

The occurrence of moulds in the external auditory meatus was recognized by Mayer as far back as 1844, but we are indebted for more exact knowledge to the classic researches of Schwartze and Wreden. The form most commonly found is the aspergillus, of which about sixty instances are on record, mostly in Germany and the United States. The disease Otomycosis, or, as it was somewhat more precisely called by Wreden, Myrinomycosis Aspergillina, is decidedly rare in Canada. Buller ([29]) states that he has met with only one case, and that due to the aspergillus niger, in about thirty-five hundred patients in the Province of Quebec, and only two cases have been reported to this Society, one by Dr. G. H. Mathewson ([28]), and the other by one of us (H. S. B.) ([27]). Both of these were also of the niger variety. The disease is now sufficiently well recognized by otologists everywhere, although certain

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minor points as to differentiation of the species of moulds at work remain to be worked out. We are lead to place the present case on record, not from anything peculiar or new in the disease as such, but to draw attention to an example of an excessively rare form of infection.

Clinical History by Dr. Birkett.—The patient was a man about 40 years old, and he consulted me on account of an impairment of his hearing, which had been present for nearly three months. The condition has been treated by syringing on the presumption that the deafness was due to an accumulation of wax, but it did not improve, and when I saw the man his hearing was limited to detecting the sound of a watch when it was held in contact with the ear. The patient also complained of an intense itching and a stinging pain in the ear.

Upon examination I found the ear filled with a dark mass, which at first sight resembled desquamating epithelium, but upon closer inspection with a lens, the surface appeared to be covered with a greenish material, which presented all the characteristics of a mould. This impression was confirmed when I removed the mass and examined it more closely.

The case, then, was definitely one of mycotic infection, but it was not apparent at the time which form it was. The treatment was obvious, the instillation into the ear of alcohol and boracic acid at intervals during three months. At the end of that time the growth was destroyed, and the hearing was restored to about half the normal acuteness. At the time the growth was thought to be an Aspergillus.

Moulds in the ear are not uncommon, but the A. glaucus variety is very rare. Many of these cases are treated as if they were merely due to an accumulation of wax, and too often they are treated by the injection of water, which does not improve matters as moisture is favourable to continued growth. In addition to this there is usually an eczematous condition present in the auditory canal which makes the habitat still more favourable for plant life.

A portion of the material removed, which had the appearance of dried secretion covered with a dull greyish-green fur, was inseminated on agar and potato. On agar in twenty-four hours was produced a mould together with a moist whitish scum of a different nature. The latter was proved subsequently to be a growth of the staphylococcus albus. On potato the growth of the mould was much more luxuriant than on agar. From the potato culture pure growths were obtained which were inseminated on broth, agar, potato, and gelatine plates. The resulting growth was most abundant on potato and gelatine, less

so on broth and agar. The mould grew well both at the room and incubator temperatures. Under the microscope it was found to belong clearly to the aspergillus group and presented the following characteristics. It possessed the usual branching mycelium. The hyphæ were relatively short, faintly granular, practically devoid of pigment, and exhibited slight fusiform enlargements. The receptaculum was flask- or club-shaped. The sterigmata were undivided and placed on the distal two-thirds of the receptaculum. The spores were round or slightly ovate and of a distinct pale greenish tint. As compared with the A. niger, the main differences in the organism under discussion were that the receptaculum was much smaller, less fully fruited, the hyphæ shorter, and the pigment green instead of black.

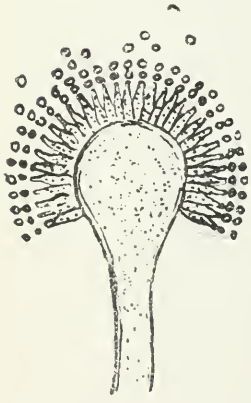

Fig. 1. Diagrammatic section through the centre of the conidiophore of the Aspergillus glaucus.

Fig. 2. Idealized view of the mycelium of an Aspergillus. (Thoma.)

An emulsion was made of the mould in physiological salt solution and one and a half ccm. of this injected with antiseptic precautions into the auricular vein of a rabbit. The animal died in three days.

The animal was sectioned shortly after death, and the lungs, liver, and kidneys were found to be thickly studded with what resembled small abscesses or minute areas of necrosis, the size of a pin-head and

surrounded by a zone of hyperæmia. Small portions of the liver and kidney, removed with the usual precautions, were placed in agar tubes and subjected to the incubator temperature. In two days there was an abundant growth of a mould of dark greyish-brown colour. When transferred to potato the original, characteristic, dull greenish pigment was produced. Microscopically, the mould presented all the peculiarities of the original form inoculated. Portions of the liver, lungs, spleen, and kidneys were mounted in celloidin and stained with hæmatoxylin-eosin, lithion-carmin, and carbol-thionin. The best results were obtained with the last-mentioned stain. The fungi were observed in all the organs save the spleen. The small dots seen in the various organs consisted of masses of mycelium together with a few mononuclear and polymorphonuclear leucocytes. The mould was particularly abundant in the larger vessels, but had extended even into the capillaries. The mycelium in places presented the appearance of short rods, somewhat resembling bacilli, except that they were much larger and tended to be sharp at one end while clubbed at the other. In other cases the mycelium formed long, simple or richly branching filaments Small areas of condensation in the protoplasm could frequently be seen. No sporangia were noted. In view of the peculiar colour of the pigment in the mould just described we have concluded that it is the aspergillus glaucus. It is true that it has been stated that this form is non-pathogenic and will not grow at the incubator temperature. This we are convinced is an error. So far as we can gather from the various authorities there is, as is usually the case when the humbler forms of vegetable life are under discussion, considerable difficulty in differentiating between the various forms of aspergillus, inasmuch as all may at times show some aberration from the type. It is usually stated that the aspergillus niger is the form commonly found in the ear, yet Steinbrugge, in the article on the Ear in Orth's Pathology, holds that it is the fumigatus. This discrepancy of opinion probably arises from insufficient study of the forms mentioned, for occasionally the A. niger presents a smoky appearance, and again the A. fumigatus may become blacker. Apparently a difference of environment is sufficient to produce an alteration of the pigment, for it will be remembered that in our case the mould as recovered from the rabbit into which it had been inoculated and grown on agar presented a somewhat brownish colour, which was subsequently on a different medium transformed into a dull, glaucous green. Similar considerations have led some to regard the A. flavus and the A. fumigatus as sub-varieties of the A. glaucus. With regard to pathogenicity, we need only say that the A. niger and the A. fumigatus have been the forms usually studied, while

but little seems to have been done in the case of the A. glaucus. So far as our present knowledge goes, we can only distinguish between the various forms on the basis of the colour of the pigment, the size of the receptaculum, the length of the hyphæ, and, possibly, slight differences in pathogenicity. As compared with the A. niger, the form we have here described possessed much shorter hyphæ, the receptaculum was smaller and more flask-shaped, and the pigment was a dull greyish-green. As Moos (7) has pointed out in the case of the A. fumigatus, clinical symptoms may be absent or trifling, indicating a low grade of virulence. At other times the condition is troublesome and persistent.

Not having access to the complete literature on the subject of otomycosis we are unable to state positively in how many of the recorded cases the A. glaucus has been found, but undoubtedly it is excessively rare. Wreden, Siebenmann, Hassenstein, and Burnett all mention the A. glaucus as occurring. Hassenstein's patient was a man forty-five years of age, who had for five or six years suffered from nasal catarrh and deafness. He had had a malodorous discharge from the right ear for three years, but no pain or tinnitus. The auditory canal was reddened and swollen. The symptoms lasted ten days after treatment was inaugurated. On the walls of the meatus and on the membrane was a yellowish green deposit. An examination of this by Hallier revealed several forms, the A. glaucus, stemphylium, and the graphium penicilloides. Burnett's patient was a man thirty-five years old, who had for some weeks suffered from deafness, pain and itching of the left ear and a watery discharge. A few days later the right ear became involved. Examination showed in both a pale grey membrane covering the upper part of the canal and the membrana.

The essential conditions for the growth of aspergilli appear to be warmth and moisture. Thus it is that the mould usually affects the external auditory meatus or the lungs. It is rare to find it elsewhere. Draper, of New York, once observed the A. niger growing on the skin on the inner side of the thigh, and it is interesting that in this patient the organism subsequently appeared in the ear. The fungus is also known to invade the interstices of the bones in the case of dogs and fowls, and an epidemic of this disease has been noted among the birds in one of the zoological gardens. Attempts to cultivate the mould in the normal ear have failed, so that it would seem that some pathological condition must previously be existent which provides the necessary factors. The presence of normal wax or of a purulent discharge do not favour the growth. Maceration and loosening of the superficial epithelium, with the production of a neutral or slightly acid medium,

such as is produced by dermatitis, eczema, or psoriasis, so-called, provide the most favourable conditions. The site of election in the ear is perhaps best explained in that the essential factors are here provided and in view of the common practice of instilling oil or other foreign substances, which are apt to contain the spores, into the ear. The mycelium grows in the rete malpighii and gradually penetrates the deeper structures. The hyphæ can be seen projecting into the cavity. In consequence of the fungus reaching the sensitive parts, or possibly from some toxin, irritation is produced. There is a sense of fulness or actual pain in the ear, tinnitus and itching of the meatus. Vertigo is rare, but the hearing may be considerably impaired. On examination patches of a membranous character may be noted on the walls of the canal or even on the membrana, presenting a colouration varying according to the nature of the fungus at work. In several cases, the fungus has extended to the middle ear, and in two was apparently the cause of perforation (Pollitzer, Bezold). Diagnosis is readily made with the microscope.

The usual treatment consists in mechanical removal of the plugs, and the topical application of some parasiticide, of which nearly all have at some time or other been advocated. Perhaps the best is rectified spirits, either alone or with boracic acid (1-20), or salicylic acid (2 per cent.). The disease is, as a rule, readily amenable to this procedure.

In conclusion, we desire to express our thanks to Dr. F. M. Fry, who kindly undertook to look up certain references not accessible. to us.

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CIRRHOSIS OF THE LIVER: SYNOPSIS OF CASES OCCURRING IN THE ROYAL VICTORIA HOSPITAL, 1894-1903.

BY

R. M. Hardisty, M.D., Externe in Medicine,

Royal Victoria Hospital,

Montreal.

The clinical records of the Royal Victoria Hospital show 52 cases of cirrhosis of the liver admitted since 1894, the time of opening of the hospital.

Age: The age of the patients affected, varied within wide limits. The oldest case was 66 years and the youngest six; while the average age of all the cases was 41.5 years. In the majority of cases the patients affected were from 40 to 45 years old; five cases were under nine years of age.

Alcohol: Of the 52 cases 35 used alcohol and 26 of them are known to have used it in excess, from periods varying from one to 35 years. The remaining cases showed an actual absence of alcohol as a factor in the disease in 10 cases, while in seven cases there was no satisfactory history obtained for or against its use. As to the form of alcohol used, this is mentioned in only 17 cases; nine patients used spirits alone, six used ale and spirits both, and chiefly gin; in two cases ale alone was employed. The amount taken in individual instances is mentioned in but few cases, the excess being extreme in some. The relation between the amount of alcohol used and the rapidity of the disease could only be observed in the following way:

In 14 cases where great excess of alcohol had been employed the

course of the disease was apparently not very rapid. Only three died in the hospital and the average duration of the 14 cases, up to the time they were discharged or died was 26 1-2 months. The average duration of the disease in the three cases which died in the hospital was slightly over 21 months. Autoposies were performed in two of the cases and in both advanced atrophic cirrhosis was present. Clinically seven of these 14 cases showed extensive disease.

In only one case where there was a history of alcohol did the individual become a total abstainer, and this was a case of excess lasting over 30 years, the abstinence itself lasting only 10 months. In this case there was a history of cirrhosis beginning four years before abstinence. In five other cases there was a history of former excess which had been given up for periods varying from a few months to 36 years, the individuals being only moderate drinkers.

Of the five cases under nine years of age alcohol was definitely absent as a factor in three, not mentioned in the other two cases. Three had some definite infection within five years and one had pericarditis and endocarditis.

Infectious Diseases: Infectious disease as a cause was more or less definite in 11 cases, the infection being within five years from the commencement of the present trouble. In two there was pneumonia and enteritis; in two enteritis alone; typhoid in two; scarlatina in one; influenza in two; and in another measles, chicken-pox and mumps were all present. In three there was a history of acquired syphilis, while in five others it was merely suspected. In 27 cases enquiry was made for other venereal disease; the following results were found:—In four there was a history of former gonorrhœa (either acute or chronic) but in no instance was there any evidence of the association between that disease as an etiolgical factor and the cirrhosis; two others gave a history of having had soft sores. In other cases there was no definite information as regards venereal disease. Malaria was present in one case. Dietetic excesses were mentioned in two cases with regard to heavy eating, but in this regard the records were incomplete.

Sixteen cases showed some signs of cardiac lesion. As regards the forms present in these various cases of cirrhosis of the liver, there was evidence of a mitral endocarditis in 10 cases, there were no aortic cases, while only one showed a relative insufficiency of the mitral valve with other signs of incompetency of the circulation. The heart was definitely enlarged in seven cases, and myocarditis was mentioned as being present in two instances; pericarditis was present in one case.

Malignant disease of the breast was present in one case with a history

of removal of the growth 19 months previously; this patient died and an autopsy was performed. The liver showed well marked atrophic cirrhosis.

In four cases no cause whatever for the condition could be made out from the reports, but in this respect the reports were very incomplete; in these cases two were atrophic and two hypertrophic.

Clinical Diagnosis: In the 52 cases there were 16 diagnosed as atrophic cirrhosis of the liver (32 per cent.), 18 were diagnosed as hypertrophic cirrhosis of the liver (34 per cent.), while in 14 the mere diagnosis of cirrhosis of the liver was mentioned without specifying its exact nature. Of this last group of cases however, the reports mention diminution in size of the liver in three cases, while in seven there was enlargement, and no definite change in size was made out in four. Syphilitic cirrhosis was made out in but one case. There was faulty diagnosis in two of the cases, in both of which merely a coincident myocarditis was recognized. In these cases the autopsies showed a condition of cirrhosis of the liver, not that of cardiac disease but rather of a toxic type. In one case no diagnosis whatever was made in the report.

Results: Fifty-one cases are recorded with results of treatment; 33 were discharged and 18 died. Of the cases that were discharged improvement was noted in 17 cases. Nine cases were tapped from one to eleven times; of these four were discharged improved. Two exploratory operations were performed. Improvement was noted in four cases of the atrophic type and 10 of the hypertrophic. Of the 18 cases that died toxæmia was the cause of death in nine cases. In the atrophic cases (13 out of the 18 deaths) the causes of death were as follows:—Toxæmia, six cases; toxæmia and hæmatemesis, one case; toxæmia and repeated hæmorrhages from bowels, one case; hæmatemesis, repeated and large, one case; small hæmoptysis, one case; ruptured œsophageal vein and hæmorrhages into stomach (not vomited up), one case; heart failure, two cases. In the three hypertrophic cases the cause was asthenia. Heart failure was the cause of death in one of the cases diagnosed clinically as myocarditis which upon post mortem examination turned out to be pericapsular cirrhosis and myocarditis. In the remaining case, that died, one of syphilitic cirrhosis no immediate cause of death could be made out from the records.

Symptoms: The length of time the trouble lasted from the onset of symptoms till discharge or death, taking all the cases except five, where no definite onset could be given, averaged roughly a little less than 15 months. In one case the onset seemed to be quite acute,

of six days duration from the history; the longest was eight years. In this case the atrophic form of cirrhosis was present and with the exception of some slight abdominal pain, which had not inconvenienced the patient, the first symptom was copious hæmatemesis occurring several times within a few hours. The longest case was also atrophic. The average duration of the (diagnosed) atrophic cases of cirrhosis was a little less than 1½ years; just over two years in the (diagnosed) hypertrophic cases.

Of the 18 cases which died in the hospital the average duration from time of the first symptom to death was just under 13 months. Of the atrophic, the average duration was 14 months, while in the hypertrophic it was 20 months.

As regards any relation between the etiology and duration, the following facts were observed: There did not seem to be any connection between etiology and duration. Taking alcohol as the chief etiological factor we found that although the average of all the cases was about 15 months, in 14 cases selected from all where there had been great excess, the average duration from onset until time of discharge or death was 26½ months, and in four cases where no cause at all could be made out, the average duration from onset till discharge or death was just under 12 months.

Dyspepsia: Anorexia, nausea and vomiting were present in 40 cases; they were very marked in 24, slight in 16 and not present whatever in 12. Of these 12 cases seven were atrophic, five hypertrophic.

Emaciation was present in some degree in 37 cases, well marked in 18 and present to a slight degree in 19. The atrophic form showed the greatest amount of emaciation as compared with other forms, in the proportion of three to one; it was not at all present in 24 cases, of these 14 were of the hypertrophic form, 10 the atrophic form.

Hæmatemesis occurred at some time or other during the course of the disease in 22 cases (43 per cent.); it did not occur in 30. Of the 22 cases, the hæmatemesis was very severe in nine, recurred in seven, and was associated with atrophic form of cirrhosis in eight cases. Of the 30 cases where this condition was absent there were 17 of the hypertrophic form, 12 of the atrophic and one syphilitic. The relation between hæmatemesis and other signs of portal obstruction was evident in the following way: Where hæmatemesis occurred the evidence of other signs of portal cirrhosis was more or less marked in each case. Dyspeptic symptoms were marked in 17; enlargement of superficial abdominal veins in nine, hæmorrhoids in six, spleen palpable in nine; melæna occurred at some time in nine cases, ascites was also present in

nine, that is, an average of three of these six symptoms were present in each case.

Melæna was present in 14 cases, not present in 38. Of these 14 cases it was associated with hæmatemesis in 10, while in three it appeared independently of it, once in the atrophic form repeated and severe, and twice in hypertrophic form, slight, and did not occur while in the hospital. The relation between melæna and portal obstruction was noted in the following way: Where melæna occurred dyspeptic symptoms occurred in nine cases, palpable spleen in six; enlargement of superficial abdominal veins in six, hæmorrhoids in four; ascites in six.

Hæmorrhoids had been or were present at time of examination in 11 cases, mentioned as not being present in 12, and not mentioned at all in 29.

Ascites was present in exactly one half of all the cases. The relation between this and other signs of portal obstruction was observed in the following way: In 26 cases in which ascites was present, dyspeptic symptoms were present in 16; hæmatemesis in nine; malæna in six, hæmorrhoids in four; palpable spleen in seven and dilated abdominal veins in 12. The ascites was present in the hypertrophic form in four cases.

The Spleen could be palpated clinically in 16 cases; not palpable in 36. Of the cases which could be palpated, eight were atrophic and eight hypertrophic. The relations between the spleen and other signs of portal obstruction were noted as follows: Of the 16 cases, portal obstruction was very marked in six; all atrophic. Dyspeptic symptoms were well marked in 12; hæmatemeisis in nine; melæna in six; ascites in eight; hæmorrhage in two; the superficial veins were mentioned as being disteded in 15 cases.

Œdema of the legs, varying from a slight degree to one very marked, occurred in 23 cases. The relation between this and ascites was evident in the following way:—Of the 23 cases where œdema of the limbs was present, 19 occurred with ascites ; of the four occurring melæna in six; ascites in eight; hæmorrhoids in two; the superficial veins were mentioned as being distended in 15 cases.

The Liver was made out clinically as enlarged in 30 cases, in eight dulness was smaller than normal; in seven no enlargement was found and in seven other cases its size could not be satisfactorily made out. The relation between the liver and the signs of portal obstruction were definitely made out in 17 cases; it was small or about normal size in 10 and there were all the factors incident to portal obstruction. In seven cases the liver was made out as enlarged and showed signs of portal obstruction, while in two there was diminished

size of the liver with few or no signs of portal obstruction. In these cases, which were very similar, the first symptom was copious hæmatemesis. (1) A commercial traveller, three weeks before admission while about his business vomited blood twice in large quantities and said that at the time he had never felt in better health; on admission he showed none of the signs of portal obstruction, e. g. hæmorrhoids ascites, spleen, abdominal veins or œdema and was not emaciated. The liver dulness extended from the 6th rib to 2 in. above costal margin in nipple line. (2) This patient was at work as usual, feeling quite well, when he said he tasted blood and then vomited large quantities, had no other symptom except the rather frequent epistaxis and a history of some mild abdominal pain four years before. On admission he showed no signs except that the liver was made out to be small, being only 2 in. vertically in nipple line.

Post Mortem: Of the 15 post mortems the liver was increased in size in four cases, diminished in 10, about normal in one; in four cases is was hobnailed, in six granular, in one smooth on the surface, while in two it was lobulated with stellate scars (probably syphilitic). In 12 of the cases the fibrosis was very extensive. The relation between the findings of the autopsies and the clinical symptoms was of special interest. In 10 cases there was diminution in the size of the liver with a clinical history of portal obstruction. It was remarkable to notice with what variations the portal obstruction presented itself. With a marked atrophic cirrhosis the following signs and symptoms of portal obstruction were present in the following regular manner: Ascites was present in eight cases, with all the other signs of portal obstruction; in six cases there was gastro-intestinal catarrh; hæmorrhoids in two cases; enlarged spleen in nine, and distension of the œsophageal veins in five.

Of the 15 cases the spleen was found enlarged in 12, while in other cases where it was not enlarged the capsule and trabeculæ were found thicker than normal. It could not be definitely stated where the spleen was small that the cause lay in the thickening of the capsule.

The heart in these cases was chronically diseased in nine instances; there was brown atrophy in seven cases; in one fatty degeneration, and in two myocarditis.

Tuberculosis was present in three cases, one in lungs and intestines, the other two in lungs, one of which was miliary. There were five cases of pleurisy.

Nephritis was mentioned in only six cases, while cholecystitis was present in three.

In addition to the ordinary forms of cirrhosis already mentioned an examination of the post mortem records shows 19 cases of early cirrhosis which had not been recognised clinically and had been treated in the hospital for various other troubles. In most of these cases the cirrhosis was fairly well marked and recognisable with the naked eye, while in others it was only recognised under the microscope. Of these 19 cases eight gave a history of alcoholic excess, three were moderate while in eight there was no history of its use whatever.

Twelve of the cases had one or other form of heart lesion, while in two there was a suspicion of a specific disease. In one there was a history of acute rheumatism a few months previous to the terminal illness. The cardiac diseases mentioned were, aortic two, mitral three, myocarditis and arterial sclerosis three.

In these cases the liver was enlarged in eight, the fibrosis was periportal in character in 11, pericellular in only four, while in the remaining four there was cyanotic atrophy and induration, more or less advanced.

Remarks: The above cases show that in its onset cirrhosis of the liver may occur at almost any age. It was present in one patient at the age of 60, and five children under nine years of age were also affected.

In the diverse etiology alcohol is but one of many factors; in more than one-fifth of the cases there was a definite absence of an alcoholic history. Where alcohol induced the disease it was found that ardent spirits were most effective; the quantity taken did not seem to affect the duration of the disease.

Infectious diseases seem to be a common etiological factor. Of eleven cases in which infectious disease seemed to be the main cause, five had absolutely no alcoholic history whatever, and four were extremely moderate with its use. Where the children were affected the relation between infections and cirrhosis was very evident, this finding being in accord with several authorities.

It was noteworthy too that in sixteen cases of pure cirrhosis the cardiac lesion seemed to be a secondary factor, there being either endocarditis or myocarditis.

The duration of the disease, averaging in the majority of cases 15 months, was, as a rule, longer in the hypertrophic cases. One patient, however, with atrophic cirrhosis had been ill for eight years.

With regard to the symptoms, it is interesting to note that dyspepsia in one form or another may be quite absent; certainly in 12 cases there was no evidence whatever of gastro-intestinal disturbance. Emaciation too was absent in a large portion of the cases.

Where hæmatemesis occurred, a fatal result seemed to come more rapidly and in only one case was death long delayed after this event had transpired (four years). Of the nine patients who died in the hospital with a history of hæmatemesis, three died in consequence of this symptom, while in the other cases, except the one above mentioned, death followed after a period of several months.

The causes of death were in the majority of cases, toxæmia or hæmorrhage from the stomach or intestines. The majority of the fatal cases showed the hypertrophic form to be that of greater duration, thus substantiating the evidence as given by the clinical history.

The symptoms of portal obstruction showed very great diversity in their incidence. While hæmatemesis occurred in thirty cases and ascites was present in twenty-six patients, enlargement of the spleen was found in relation with symptoms of portal obstruction elsewhere, it could not be said that a thickening of the capsule accounted for all cases in which that organ remained small.

URIC ACID.

ITS PHYSIOLOGICAL AND PATHOLOGICAL SIGNIFICANCE.

BY

J. T. HALSEY, M.D.

Probably no other substance has been the subject of more investigation by medical men than uric acid. The great interest which this substance has had for physicians ever since its discovery by Scheele in the same year which gave birth to the United States of America, an interest which has by no means lagged in recent years, is responsible for the fact that there is now extant an enormous literature dealing with uric acid in its various aspects. In the first two volumes of the Ergebnisse der Physiologie, H. Wiener, of Prague, has contributed two very extensive and valuable monographs on uric acid and its physiological and pathological significance. These two articles present very clearly and to a very considerable length the results of the various investigations, almost countless in number, which have had for their object the clearing up of many problems connected with uric acid. It would therefore seem worth while to endeavour to present to the readers of this JOURNAL, as far as it is possible within the limits of a short article, the more important facts.

Wiener takes up the subject, first, from a physiological point of view, and secondly, from the pathological stand point, tracing the historical development of this extensive and still obscure chapter in physiology

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and pathology. It will be quite aside from the purpose of this article to even mention the many erroneous views, theories and results, which have led to such confusion in the minds of the majority of medical men with regard to the significance of uric acid. It would seem best to present as concisely and clearly as possible what we at present feel that we may claim to know with a fair degree of positiveness.

The first question we would endeavour to answer is: "What are the sources of the uric acid, which appears in the excretions and is found in the body?" If we leave aside, as being apart from our special field of interest, the sources of uric acid in birds, and confine ourselves to its sources in the bodies and excreta of man and the allied mammals, we shall find that we are able to state to-day, that uric acid may be manufactured either as a result of the breaking down of more complicated substances, or through synthesis from simpler ones.

The first of these methods is the one which plays the more important role, quantitatively at least. Although early investigators were inclined to look upon uric acid as a substance which resulted from the oxidation in metabolism of all forms of proteids, we now know that this is not the case. Such proteids as egg, or serum-albumin fibrin, ordinary meat, and many others, may be eaten, digested and consumed, and yet the uric acid in the body tissues and excreta remain unchanged. The ingestion of those complicated proteids known as nucleo-proteids, which are so abundant in the nuclei of cells of different organs, and play so important a part in the life and function of these cells when fed, is regularly followed by a marked increase in the uric acid in the blood and in the urine. Furthermore it has been established that in a number of conditions in which there is an increased destruction of the nucleo-proteid elements of the body (pneumonia, leukæmia, suppuration), an increased amount of uric acid is excreted. We also find that the ingestion of some of the xanthin bases, which we know are contained in large amounts in nucleo-proteids, leads to an increased excretion of uric acid.

A priori, it was then not unreasonable to suppose that uric acid may be manufactured synthetically in man and other animals, just as we have long known is the case in birds. Recent investigations have furnished evidence that such a synthesis does go on. Lactic acid and other dibasic acids, or substances easily changed into these acids, such as glycerin, are combined with nitrogenous substances to form uric acid. However, under normal conditions, it is highly probable that this synthetic manufacture of uric acid takes place only on a small scale.

As regards the fate of uric acid, once it has been manufactured, we may believe that whilst a certain proportion of it is further oxidized

into simpler substances, a considerable amount is excreted in the urine. Although for a long time a number of investigators claimed that uric acid, when formed by metabolic processes, underwent no further change but was excreted unchanged, it has been rendered absolutely certain that under certain conditions at least a very considerable proportion of the uric acid thus formed is further oxidized. The evidence on which this rests is as follows: after extirpation of the kidneys the uric acid in the blood does not increase during the two or three days which intervene before death. If, however, not only the kidneys but the liver also is extirpated, there is a very marked increase of the uric acid content of the blood.

A view which one frequently meets with in literature is that the oxalic acid in the urine is a decomposition product of uric acid. This view is almost certainly erroneous, careful experimentation having shown beyond all reasonable doubt that none of the uric acid, which does undergo further change in the body, is changed into oxalic acid.

A number of investigators have had for their object the determining of the organ, or organs, taking part in the production or in the manufacture of uric acid. From these results it is quite certain that the cells of a number of organs, especially the liver, spleen and muscle, take some part in the manufacture of that portion of the uric acid which is derived from the nucleo-proteids. While in birds the synthesis of uric acid from simpler substances goes on in a number of organs, in man it takes place certainly in the liver and perhaps only there; at least it is highly probable that this synthesis is carried on in the other organs only in a very subordinate degree. Uric acid is destroyed chiefly in the liver, to a considerable extent in the muscles, and to a slight extent in the kidneys. It is possible that other organs too have the power of oxidizing this substance, but we have at the present time no proofs that this is the case. It is highly probable that the uric acid under normal conditions exists in our bodies in combination with complex organic substances, perhaps with neucleins, but of this we have no positive knowledge.

Many theories are based upon various premises in regard to the various factors governing the solubility and insolubility of the uric acid in the blood and in the body fluids, but behind these theories there are no experimental data which bear the test of close investigation. The acid is excreted in the urine chiefly as a primary sodium urate. The urea and some of the inorganic constituents of the urine, especially the secondary sodium phosphate, aid in keeping it in solution.

We may summarise our knowledge of the physiology of uric acid in comparatively few words: Uric acid is manufactured in the body from

the xanthin bases derived from the nucleo-proteids contained in the food ingested or derived from the tissues of bodies which are undergoing destruction. Although certain authors claim to be able to determine in given cases the relative amounts of the uric acid derived from the food (exogenous) and from combustion of body tissues (endogenous) their interpretation of their experimental data is open to much criticism. Another source, of whose relative importance we are unable to judge, is the synthetic manufacture of the uric acid from various simpler substances. A certain proportion of the uric acid is further oxidized in the body tissues and a certain proportion is excreted in the urine. We have at the present time no means of judging, even approximately, how much of the uric acid produced is excreted and how much undergoes further change. The liver, spleen and muscles are the organs, in which we know uric acid may be manufactured from the nucleo-proteids. The synthetic manufacture of the acid takes place chiefly, probably entirely, in the liver; we have no positive knowledge as to the combination or form in which uric acid exists in our bodies under normal conditions.

In considering uric acid from a pathological or clinical standpoint, it seems well to separate the condition or conditions known as gout, from the various other conditions in which we know there are certain anomalies as regards production and excretion of uric acid. Considering this latter case first, we may state that, in a very large proportion of those cases in which for varied reasons nucleated cells are being formed and broken down to a greater extent than normal, the uric acid is increased over the normal amount. Cases of pneumonia, particularly in the resolving stage, conditions associated with abscess or pus formation, various leukæmias, present examples of these conditions.

When we attempt to formulate any views or express any opinions in regard to uric acid in gout, we find that, in spite of the enormous number of painstaking investigations carried on by the most capable clinicians, pathologists and physiologists, the concrete facts of general application are few and far between. One thing we may say, and only one, with great positiveness, and that is, that in almost all, perhaps in all cases of gout, the blood contains more uric acid than the blood of the average normal healthy individual. At the same time the value of this one general fact is somewhat lessened by the fact that, in many conditions, which appear to have no relationships with gout, uric acid may frequently be found present in the blood in quite as large amounts, as in some cases of nephritis, the uric acid contents of the blood is markedly increased; we also find it increased in leukæmia and it may be increased in the blood after a meal containing large amounts of nucleo-proteid food.

The excretion of uric acid has been studied in hundreds of cases of gout, and yet we find that we can say little of general application about this. The uric acid excretion varies within normal limits in cases of chronic gout, and also during the periods between the acute attacks in those individuals who are subject to gout. It is noteworthy, however, that in these cases the variations in the uric acid excretion from time to time is very great, now greater, now lesser amounts being excreted. In the acute attacks, however, there are marked changes from the normal; here there is regularly at some time during or after an attack an increase of the uric acid and allied substances excreted as compared with the amounts excreted between the attacks, but this increased amount of uric acid excreted is not absolutely so great as to be larger than the amounts often excreted by normal individuals. There is also often a decrease in the uric acid excreted during the period just before the onset of an acute attack.

It had been thought that careful study of the metabolism of gouty individuals might furnish results which would justify the formation of an opinion as to the significance of uric acid in this disease, but we may say that these studies have thus far sufficed only to make confusion worse confounded. The contradictory results obtained by different observers make it very difficult indeed to give a summary of these results, much less to express an opinion of their significance. It seems fairly certain as a result of these metabolism investigations that, in gouty patients, the balance between the income and outgo of nitrogen varies much more than is the case with normal individuals. In some the nitrogen excreted may exceed the nitrogen ingested, or just the opposite condition may occur. Very striking indeed is the nitrogen retention, which is found in some gouty cases. This nitrogen is probably not retained as proteid nitrogen, the ordinary method of nitrogen retention. It is perhaps retained in the form of uric acid or other purin subtances, but the amounts retained are so large as to make it difficult to believe that this is the case.

When one seeks explanations for these few facts which are known about uric acid in gout, firm ground is left behind. Increase in the uric acid content in the blood may be due to (1) diminished excretion, (2) to increased production, or (3) to diminished destruction of the product itself.

The first explanation is favored by many observers, they believing that a faulty performance of its function by the kidney is responsible for the accumulation in the blood of abnormally large amounts of uric acid. Those holding this view point to the frequency of kidney lesions in gouty patients, and to the frequency of gouty deposits in kidney

cases. On the other hand, those, who do not accept this explanation, instance cases in which severe kidney lesions exist with no increase in the amount of uric acid in the blood and also to cases of gout with increased uric acid content in the blood but no recognisable kidney lesions. Moreover it is found that gouty patients, after the ingestion of uncleo-proteids in large amounts, are able to excrete, as do normal individuals, the increased amount of uric acid which is derived from this nuclein-rich food. Still many authors hold fast to the view that faulty kidneys are responsible for the increased uric acid in the blood, an opinion, which at the present time lacks proof but which still cannot be absolutely controverted. Others would explain the retention of uric acid through change in the chemical composition of the blood which alters the solubility of uric acid therein and leads to its deposition as urates; Roberts in his article in Allbutt's System suggests that the diminished alkalinity of the blood is responsible for the deposition and retention of the urates, but diminished alkalinity of the blood has never been shown to be a constant phenomenon in gout. Pfeiffer takes the view that in gouty individuals the uric acid exists in the blood in a different form or combination than normally and therefore does not pass through the kidney; the "proofs" which he advanced to support this view have, however, been shown to be based upon faulty methods. The increased uric acid content in the blood may be due to a preceding retention, but this does not explain its being so constantly and continuously increased in gouty patients.

The second explanation for the increased uric acid content of the blood, that it is due to an increased production of the uric acid, is one for which there is at the present time no very positive proof for or against. There are a few facts, however, of possible significance in this connection. In gouty patients we find no evidence of increased cell destruction. There is therefore no great probability that in these cases there is more uric acid manufactured from the nucleo-proteids than is the case in normal individuals. The clinical relationship of oxaluria and the uric acid diathesis is possibly of some significance when we remember that the feeding of certain substances, among others the various dibasic acids, leads to increase in the amount of both oxalic acid and uric acid excreted in the urine. It is therefore possible that in those cases of gouty diathesis with oxaluria, the abnormal amounts of uric acid and oxalic acid are both due to the same cause. An increase in the manufacture of these various substances (dibasic acids among others) which may be looked on as antecedents to both uric and oxalic acids, could very easily be a cause for an increased manufacture of both the oxalic and uric acids. Those who would

explain the increased uric acid content of the blood by the diminished destruction of uric acid are unable to point to any experimental or clinical data supporting their view. At present it is impossible to decide between these various views. Perhaps the causation of the increased amount of uric acid in the blood is not the same in all cases.

When we come to enquire into the role which the uric acid plays in the production of the symptoms of disease we are again at fault. There is no question that in the inflamed joints, as well as in the tophi, there are depositions of urates, but we are unable to state whether these depositions are causes of the inflammatory conditions or whether they are themselves the results of a preceding inflammation. It is possible that the increased uric acid contents of the blood favours the development of inflammatory conditions and that the local changes at the seat of inflammation are thus responsible for the occurrence of the deposition, or the increased uric acid content of the blood may be alone responsible for the depositions and these cause the local inflammatory changes.

Against either of these views there is much to be urged and neither would seem to offer a satisfactory explanation. Pfeiffer advanced as explanation for these depositions views similar to those mentioned before as his explanation for the retention of uric acid. Others see in diminished alkalinity of the blood the determining factor for the deposits, but this diminished alkalinity has not been demonstrated. It is in the highest degree probable that the abnormally large uric acid content in the blood is not alone responsible for the inflammatory changes or deposits, for in many conditions we find this increase in uric acid can exist continuously and no local inflammation result. We can only mention that certain authors have recourse to a neurotic causation of the local changes but in support of their views they have adduced only hypothetical arguments. Van Noorden and others have advanced the view that the local inflammatory changes are caused by a sudden increase in the uric acid content of the blood leading to a supersaturation and this leading to a precipitation of urates. But the blood of patients with acute gout is still capable of dissolving considerable quantities of urates.

We thus see that by a process of exclusion we are driven to one of two positions. We must believe either that in different cases of gout the acute joint symptoms are due to varying causes or we must have refuge in the view that the cause lies in the combined action of the abnormally large amounts of uric acid and an unknown substance or substances. This last view is one which has been gaining ground of late and is the one to which the writer most inclines.

In the light of our present knowledge it would be unprofitable to discuss uric acid in its relation to the various symptoms to which it has been placed in a causal relationship by many authors. It may not, however, be out of place in such an article as this to protest strongly against several errors all too commonly committed by many of even our best clinicians. No estimate, of even approximate value, can be made of the existence of abnormalities in uric acid excretion by merely noting the presence or absence of deposits in the urine. A urine very rich in uric acid may show no deposition, while one containing only normal amounts may deposit large numbers of uric acid crystals.

Even where uric acid and urea are determined accurately, and in the full twenty-four hour urine, such estimates are of no value unless the quantity and character of the food ingested is borne in mind, and are of little value unless these determinations are frequently made. It should be borne in mind that active cell destruction usually is followed by increased secretion of uric acid and that such conditions have, it may be confidently asserted, no relationship to gout.

There are no more disheartening or discouraging chapters in the history of "rational medicine" than many of those which deal with gout and the gouty diathesis. Lack of careful examination of evidence, confusion between hypothesis and demonstrated fact, illogical reasoning, and much inexact observation and faulty reporting of observation, have led in this field to the existence and acceptance of erroneous views of clinical conditions and, based thereon, a visionary and extravagant therapy, more to be condemned than the baldest empiricism.

BICHAT, 1771-1802.

BY

JOHN McCRAE, B.A., M.B.

When Napoleon Bonaparte was learning to walk with the first steps which must have been poor precursors of the stride that was to reach from Madrid to Moscow, Marie François-Xavier Bichat was born in Thoirette of the Jura district, and when Napoleon was nominated First Consul, an early stage on his world's journey, Bichat had set his house, and much else, in order and gone hence.

1771-1802: The dates recall much world's history, and in France of all countries, there was overturn of everything, even of mind itself, so that it would seem to the twentieth century reader as if there had never been so arid a plain or so waste a field. Yet through this time one man at least was doing what lay in him to do, was collecting and

Read before the McGill Medical Reporting Society.

ordering truths that had hitherto lain scattered, dim, and disordered. This too he must have done amid much distraction of cannon smoke and shoutings, and to-day when the smoke is entirely blown away and the shoutings are all fallen silent, lo, his work endures in an ever-multiplying harvest! Such a man cannot but interest! It is not so much the bare facts, dates and deeds in a cold account-book way that we need to know, but rather what there was in this man or in his surroundings that impelled him, when so many of his countrymen were seeking far other ends, to search so diligently after enduring facts. Was he tempted to join in the shouting? How did Lyons look to him when he looked out over her troubled roofs? Did his blood quicken at the shouts of mobs that surged past a mile or a block away? In the account-books there is scarcely a cord to tie him to the momentous events that surrounded his entire life. The question for us is, who was Bichat the man? for, in a way, we know well who was Bichat the physician.

Pictures there are extant, three of which one may see; unlike enough are they! One, plainly a sketch, shows him as a handsome man with clear eye, prominent nose and lips, a decisive chin; but one cannot but think that this full face is more likely to be the man. Here is a forehead, and straight, incisive, almost squinting eyes; a power of concentration lies in them, in witness whereof we shall later see his "21 differentiated tissues, distinguished without the microscope." His eyes are his second mind. The physician's eye, he tells us, has not been hitherto sufficiently used. Attend to this, future generations! And, hearing him, they have, in some lesser or greater degree.

Such was Xavier Bichat as he looks to us. The impulse surely lay in himself. He said to his friend Roux one day: "J'irai loin, je crois." Strong in confidence of his own powers, he was not mistaken: "J'irai loin." A far way to the heavy-footed ox is not a far way to the fleet antelope, and it is space one measures, not time.

Of his early training, we know little; at school at Nantua, at a seminary at Lyons and finally at Montpellier, he was brilliant, it is said: after this, he was allowed, or perhaps driven, for all we know, to help his father, who was a physician, and to learn what he might of the art. His tastes had tended, hitherto, to mathematics and natural science; however, that is not to be his field, and he fares, before long, to Lyons. At Lyons are greater facilities, and the great Antoine Petit, under whom, at 20 years of age, Bichat appears as student. No place for a devotee of study is this! Two years ago fifty thousand Federationists—among them Madame Roland steps on the stage of the world

for the first time—had met at Lyons and made a Universal Concord. In Bichat's second year with Petit, comes rumble of far off cannon, indicating something else than Universal Concord, and one Charlier—his whole soul lit up with the fire of enthusiasm that he has kindled at Marat's altar—addresses the Lyons Jacobins, dagger in hand: and the straw is presently alight. In a few months, Charlier's head thuds into the basket—not before he has threatened. "My death shall cost this city dear." Truest of words! In August Dubois-Crancé, with 70,000 men, and the artillery of several provinces, is bombarding Lyons day and night; "the very Hospital will be battered down and the sick buried alive. A black flag hung on this latter noble edifice, appealing to the pity of the besiegers: in their blind wrath they took it for a flag of defiance, and aimed thitherward the more." Here we need not doubt was Bichat, for we read that "he behaved with courage and devotion." One night with a world-shaking crash, the arsenal blows up, carrying 117 houses with it. Then for weeks, famine, ruin and fire! Women and children sent out are returned by the besiegers! After 70 days, the garrison sallies out, is almost annihilated and the city surrenders; 70 men are shot en masse and thrown into the river: a long grave is dug, and two hundred and nine men shot on its edge, the spade finishing what the bullet had not completed. Truly Lyons is not a suitable place in these days for the study of medicine, and so Bichat goes to Paris; it is said that he found Lyons unsafe, though we know no more of his political views than this; his intentions are to be an army surgeon, and he enrols with Desault. On one occasion the student-speaker for the day being absent, Bichat takes his place, and by his manner and evident mastery of the subject amazes the clinician, who speaks of him to Desault. From this time, Bichat became a protégé, almost a son to Desault, and hereafter lived at his master's home. So through 1794, when the roll of the tumbrils laden with Robespierre's 1200 enemies was resounding over the whole world, Bichat studied within ear shot. A revolution without! yes, Citizen Bichat, and one within also. Even now must his keen mind have begun to question the divine right of philosophic theories that had hitherto ruled: even now, was his guillotine being built that was to lop off so many stagnant ideas, and make way for a freer growth.

In 1795, Desault died, and Bichat supported the wife and infant son, who had been left in poor circumstances; more, he built to his late master a monument, by collating his teachings in surgery and publishing them in 1797 as "Oeuvres Chirurgiques de Desault"; he later edited another publication of Desault's work. In this same year, he began private courses of lectures upon anatomy and operative

surgery. Around him waged the Revolution of the 18th Fructidor, and he, citizen of a larger republic, worked day and night, with feverish energy, adding to his already heavy courses, one on physiology: he gives three lectures daily, prepares his own dissections, directs the practical work of 80 students; makes animal experiments, privately and for his classes: with Corvisart has had time to found the "Société Médicale d'Emulation" (yet extant), writes continually, has scarcely time to reread or correct his proofs—till one day a haemorrhage occurs from the lungs. Pallid death is already shuffling on the doorstep! Yet has it been even the time of Fructidor with him; he has written his "Traité des Membranes," for which all the titles and privileges of the Ecole de Médecine are conferred upon him. It is a proper classification of the different membranes, describing correctly the synovial sacs, and indicating his idea that each primary tissue has a vitality of its own—of which we may see more later.

Outside, the Directory is vanishing into thin air. Napoleon wins in Egypt, loses in Aboukir Bay, lays his strong hand on France, and shatters Austria at bloody Marengo—while in the house in the Rue du Four, goes on quietly the struggle with bodily weakness, the lectures are given, the dissections are prepared, the books written.

In 1800 Bichat publishes "Recherches sur la Vie et la Mort," and is appointed, barely 29 years of age, a physician to the Hôtel Dieu. Truly this man can speak and has something to say—the latter being probably a requisite with Citizen Bichat, before he does speak. Listen! "You may observe diseases of the heart, lungs and abdominal viscera night and morning by the sick bed for twenty years, yet the whole fuhnishes merely a jumble of phenomena which unite in nothing complete; but if you open a few bodies, you will see the obscurity speedily give way—a result never accomplished by observation if we do not know the seat of the disease." Remember that hitherto the philosopher and the glittering generality have had wide sway. This man can speak with authority; one of these winters, he has examined 600 bodies, has lived and slept in the autopsy room. Without the microscope, he has differentiated 21 different kinds of tissue, which he formulates as the chemist does the elements; he describes the alimentary canal as divisible into its mucous, muscular and serous layers. Much he has to say in his "Life and Death" upon vital properties, sensibility, contractility and irritability in which we need not follow him; indeed, some of it makes hazy reading at the best; we are concerned not with the cutting of the individual stone, but with the lines of the finished structure.

"If I have made such rapid headway, it is because I have read little!" he says to his students. The theory he represents may be

dangerous to other men but not to himself. "Books," he says, "are merely the memoranda of facts. But are such memoranda necessary in a science whose material is ever near us, where we have, so to speak, living books in the sick and the dead?"

He divides peripneumonia into pleurisy, bronchitis and pneumonia proper; this man is not an unobservant reader of his books, we see. No printed book was as yet able to tell him the following: "As every tissue has everywhere a similar disposition, since wherever it may be, it possesses the same structure, and the same properties, so it is clear that diseases must be everywhere the same. Whether the serous tissue belongs to the brain, as the arachnoid, to the lungs as the pleura, to the heart as the pericardium, to the abdominal viscera as the peritoneum, it takes on inflammation everywhere in the same way."

1801! Abroad the Napoleonic league against Britain upon the sea was crushed by Nelson at Copenhagen, and at home, Citizen Bichat quietly lays the foundation of histology in "L'Anatomie Générale appliquée à la Physiologie et à la Médecine." On, feverishly on! Has this miracle of labour time for aught else? Yes, he has time to impress upon his fellows that he is modest, disinterested, kind, he has time to help his students, especially those who are poor: there is even a hint of qualities of a less high order, of looseness of life, but we can regret these uncertainties, and hide them behind many golden deeds of which we truly know, such as the gratitude which prompted the publication of his master's works, and his kindness to Madame Desault through his whole later life.

He is now nearly through those "nine important volumes" of his! Between therapeutic experiments at Hôtel Dieu, with forty assistants, conducted upon single drugs, combinations of two and three drugs, and so on, amassing facts, he has yet succeeded in getting written the first two volumes of "Traité d'Anatomie Descriptive." Volumes three and four will not be forthcoming, save by another hand.

Coming from the autopsy room where all evening he has worked in a fetid air that drives away his assistants, he falls upon the stair at the Hôtel Dieu, is carried home, and a few days later dies of "a malignant fever," in the arms of Madame Desault to whom he has been a devoted son.

What has he accomplished? It is not a requisite that you should be led through a digest of the "nine important volumes"; he was at once anatomist, physiologist, histologist and therapeutist: most of all he was physician; there is much of his work scattered through the foundation of medicine; some has not stood the strain and has been crumbled to dust; time has sorted it for us. It is necessary that we know what roads his restless energy has pointed

out for us, and how it came that he, a mere youth, has been able to impress a science thus: he found that anatomy was a different thing from what men had hitherto supposed, that anatomy was to be learned by the eye, by the finger, and not by the ear. "Physiology," said he, "needs rebuilding." He applied himself earnestly to the cultivation of inspection, accurate observation, experiment, and decried theory that did not go hand in hand with fact. Robert Knox, evidently a living man of our own day, writing in the Lancet of 1854, says that he could not understand anatomy till he found a copy of Bichat's anatomy that he read in 1811—and this, observe, is a man of but yesterday, as it were one of ourselves, who found the anatomy books of 1800 very obscure. Was it not a great thing to make men know that a science can be built on thousands of isolated observed facts? If these facts have been truly observed, well and good! But if not—there, my learned predecessors, lies your pitfall! "How petty are the reasonings of a multitude of physicians great in the eye of the public, when investigated not by the light of their own writings, but in the cadaver!" This is not the young man of thirty years, who speaks, but the old man of six hundred autopsies in one winter, who will make shift to sleep in his work-room to save time, who will not mouth a theory when he can uncover a fact with the same expenditure of energy. His methods may be well understoood, if one looks at the therapeutic work which he undertook in Hôtel Dieu to make headway, if he might, against the reigning empiricism. He and his forty made careful pharmacological experiments upon animals, observed ceaselessly, in the wards, the actions of drugs, alone and combined one with another. Little record of Bichat remains for us in that domain. "This way, at least," said he, "lies your road." There are few men to whom it is given to work upon details as he worked, and not to lose the broader vision. With Bichat it was ever there; he never seemed to forget that each detail had its place, and its littleness proportionate to the whole plan. In witness whereof, read the titles of his later works, and see their wide scope; he learned his technique and applied it at once upon large canvasses. Lastly, what shall be said of his tireless energy? This man, more than others, believed, with his whole soul, in work; a high—pressure life, that had to get a certain thing accomplished, was his. Death always comes too late to catch by surprise such a man as this.

1802! Hardly yet has Napoleon Bonaparte, his contemporary, been named First Consul; yet far ahead is the splendor of those gigantic struggles that shook the civilized world; and for Bichat, two years younger, all is in the past. Corvisart wrote to Napoleon: "Bichat has died on a battle field that numbers many victims; no man in so short

a time has done so many things and so well!" Perhaps it was a fellow-feeling, certainly it was an admiration of this young Titan, that prompted his response. "I beg that you will have placed in the Hôtel Dieu, a marble, dedicated to the memory of Citizens Desault and Bichat, which shall attest the gratitude of their contemporaries for the service which they have rendered, one to French surgery, of which he is the restorer, the other to medicine, which he has enriched by many useful works. Bichat would have broadened the domain of this service, so important and so dear to humanity, if pitiless death had not struck him down at the age of 30." His eulogist, Levâcher, spoke before the society of which Bichat had been a founder: "Let Bichat be at the same time the guide and the model. He has shown what one could do in but a little while. What an example for you young men who are pursuing the same career! You are witnesses of the regret which he carries with him; of the tears which he has caused to flow, and of his triumphs: take him for an example. Be as he was, active and laborious, patient and zealous. Time adds nothing to glory, and with genius and work, thirty years of life suffice to render one's name immortal."

The annual report of the hospitals and charities of Ontario has been laid on the table of the Legislature. Inspector Chamberlain says that some of the hospitals do not give proper attention to the poor patients. The boards of management devote more attention to the care of private patients who pay for their accommodation, the tendency being towards an extravagant expenditure in providing rooms and fittings which might be avoided.

Of the total number of hospitals in the province, there are two which are wholly under municipal management, the City Hospital, Hamilton, and the General Hospital, London, and they have not been so progressive as others that are entirely removed from civic control. One reason for this is that the citizens do not respond readily to appeals made for the support of their hospitals. One new county house of refuge has been completed during the year, in the county of Grey; several more are in course of construction.

The number of patients in the hospitals on the 1st of October, 1902, was 2,110; number admitted during the year ending September 30th, 1903, 32,368; and the total number under treatment during the year, 35,912. The number of deaths during the year was 1,997, and the total number of days stay of patients in the hospitals was 883,200. The provincial grant to hospitals is $110,000; total amount received from all other sources, $152,597; average cost of each patient per day, 89 cents; percentage of provincial grant to expenditure, 14 per cent.

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G. GORDON CAMPBELL, WILLIAM GARDNER
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PATHOLOGISTS AND BACTERIOLOGISTS.

At the annual meeting of the Association of American Pathologists and Bacteriologists held in New York upon April 1st and 2nd, there were six contributions from Montreal. Dr. Adami and Dr. J. A. Chopin described a method which they had employed in connexion with the recent epidemic of typhoid fever in the suburbs of Montreal. It is well known that in waters suspected of being contaminated with typhoid discharges, the typhoid bacilli may be few and far between.. It is necessary therefore to use as large quantities as possible for purposes of isolating the organism in question. Where tap water is used, the best results are obtained by filtering a large quantity through a coarse porcelain filter and employing the residue for methods of differential culture. Where water has to be obtained from an open stream, this method is not possible. For such purposes, they employed the largest vessel conveniently sterilized, namely, Winchester quarts holding somewhat over two litres,

and filling these with the suspected water, removed them to the laboratory, and there added from ten to twenty per cent of glucose broth, It is known that typhoid bacilli grow in the presence of very small quantities of organic matter and upon testing they found that, even with broth so dilute as this, there was active growth of typhoid and colon bacilli when the Winchester quarts were incubated for twenty-four hours. At the end of twenty-four hours, employing long glass tubes closed at one end, and filling these with ten cubic centimeters of the incubated water, they added various dilutions of typhoid serum and allowed to stand for three to five hours until the agglutinated bacilli had all sunk to the bottom; then, breaking off the end of the tube they decanted off the supernatant fluid, washed the precipitate with sterilized water, and made cultures upon special media so as to differentiate the typhoid from other colonies. Experimentally they were easily able to isolate the typhoid bacillus by this means. In the suspected water, however, they found no typhoid bacilli but a form which was agglutinated by the serum of typhoid patients and in other features closely resembled that bacillus though fuller study showed that it was a distinct form.

Dr. C. F. Martin demonstrated a series of specimens, more particularly a case of sarcoma of the stomach with secondary growths along the course of the small intestines.

Dr. A. G. Nicholls contributed a paper on A simple Method of Demonstrating the Existence of Microorganisms in the Mesenteries of Rabbits and other Animals. If, as many observers including Adami, himself and Ford have pointed out, bacteria are taken up from the intestines and are to be found undergoing destruction in the liver, kidneys, and other organs of the healthy animal, there should be some evidence of this passage in the mesentery. In determining if this were so, Dr. Nicholls selected the rabbit as having naturally a very delicate mesentery and, under the greatest care to prevent contamination, removed the covering endothelium in situ, hardened and stained in carbol-thionin and under strict aseptic precautions. In cutting out and mounting such preparations he discovered here and there little deeply staining bodies more particularly in the neighbourhood of certain cells and along certain vascular tracts in the mesentery. Here and there a well stained and definite bacillus could be made out. In general these bodies are smaller than ordinary bacteria and of a diplococcoid form. He made control observations with tissues containing various forms of pigment and satisfied himself that the reactions of these other bodies were different from those of the bodies here described. The various transitional forms which he had been able to observe convinced him that he was dealing with bacteria, presumably

taken up by leucocytes from the intestinal contents and undergoing destruction along the course of the vessels and spaces of the mesentery.

Dr. Adami read for Dr. G. A. Charlton a continuation of his studies upon Subinfection by the Colon Bacillus contributed to a previous meeting of the Association. In that previous communication Dr. Charlton had shown that repeated injection into the rabbit of small doses of a living culture of the colon bacillus of low virulence obtained from the intestines of the rabbit, led to a progressive anæmia in which, when the red corpuscules had sunk to below three millions, there appeared poikylocytosis and nucleated red corpuscles. This differed from pernicious anæmia in the absence of marked changes in the bone marroow, in the definite increase of the iron in the liver and in the relatively greater reduction of hæmoglobin than of red corpuscles. Nevertheless, as sometimes occurs in pernicious anæmia, there developed in several of the animals nervous symptoms of progressive, ascending type. It is with these nervous symptoms that Dr. Charlton dealt. At first there was a certain grade of spastic paralysis of the hind limbs with increased reflexes. As the muscles emaciated the spasticity disappeared along with the reflexes, and the higher segments of the body became involved until, just before death, there seemed to be impairment of the bulbar centres. Examining the cords of these animals he found diffuse degeneration confined to the lateral and posterior tracts, with some evidences of degeneration of certain of the anterior horn cells, more rarely of cells of the posterior horn with pigmentation of the same and eccentric position of the nuclei. The fact that very similar degenerations are found in advanced cases of pernicious anæmia again appears to indicate that though possibly this is brought about by other organisms, this disease is of the nature of a subinfection, that is to say a condition produced by the passage into the system of increasing numbers of bacteria from the intestinal tract, of bacteria which do not multiply in the tissues as in frank infections, but undergo destruction, there being liberated into the tissues during this process toxic substances which slowly produce lesions.

Dr. O. Klotz gave a full study of the organism isolated from water by Drs. Adami and Chopin by the method above referred to, describing its various properties. While in size and form it resembled the typhoid bacillus, it was not so motile, had fewer flagella, and fermented various sugars with the production of gas. It had also a visible growth upon potato. Employing strong typhoid serum or the serum of animals immunized against the typhoid bacillus, it was not precipitated by such high dilutions as was the typhoid bacillus. It differed also in its growth upon neutral memedia and upon Elsner's

medium and eventually upon Hiss plates. Human typhoid serum which agglutinated the typhoid bacillus at the end of three hours at a dilution of 1 in 6,200, only gave complete agglutination of the organism in question with a dilution of 1 in 1,550 and a doubtful reaction of 1 in 3,100. Or, using rabbit serum, typhoid bacillus reacted in 1 in 1,240. This organism only reacted at 1 in 930. Yet these figures indicate that it is most sensitive to typhoid serum. Immunizing rabbits against this organism, there was a similar mutual action though here the organism in question was more rapidly agglutinated than was the typhoid bacillus. Comparison was made with a series of organisms isolated by Carl Sternberg in 1900 at Vienna, and the close relationship of this organism, to which the name bacillus perturbans was given, was pointed out.

A second paper by Dr. Klotz described an epizoötic that had recently affected the rabbits and rats in the animal house at McGill. The disease in question was somewhat chronic, leading to progressive emaciation with a remarkable falling out of the coarser hairs and, in severer cases, of the finer hair also, giving the animals a curious ragged appearance. The post mortem findings in these animals were remarkably negative save that, in a certain number, there was a slight cirrhosis of the liver. In smears from the heart blood a diplococcus was seen, but cultures could rarely be obtained from the blood. Using special precautions, he obtained from the spleens and livers of the majority of the animals, a micrococcus apparently not hitherto recorded. The characters of this micrococcus were described, the most marked feature being the motility, due to the presence of fine terminal flagella. He was able to induce the disease with pure cultures of this organism in rabbits and guinea pigs and to reobtain the micrococcus from their organs. To it he gave the name of micrococcus flagellatus.

THE VOICE OF AUTHORITY.

"What the *Lancet* says," is the last word upon any subject pertaining to medicine, whether it be the virtues of an automobile or the purity of cigarettes. It is quite true that the oracle is often misquoted, and the general statement that tobacco is a salutary herb, may be limited by energetic advertisers to apply alone to their particular brand.

There is an excellent diluent known as Apollinaris water, and people should drink it more freely than they do. This is our own opinion; it is the opinion of the bottlers, and it is in accord with the decree of the authority referred to. It is a pleasing sight, those who minister to the public sitting together in counsel and privy to each other's plans, editors of medical journals with those who advertise their health-giving wares in their columns.

For many years past there has beeen a suspicion, sedulously fostered by evil men, that this boon to the abstemious is habitually manufactured in London and New York, instead of being drawn without mediation from the great bosom of mother earth.

To set at rest these "sinister suggestions," the *Lancet* dispatched one of its special commissioners to the spring, where the company owning the property "afforded every facility in order that the inquiry might be made as complete as possible." The results of this elaborate enquiry have reached us from various quarters, from the editorial offices, from the agents for the company, and even from subscribers who seem resolute that the truth shall be made to prevail. The report is contained in the issue of January 30th, and follows an admirable account of the Osborne House Convalescent Home for Officers of the Navy and the Army. It is done in the highest style of the art of pseudo-scientific writing, and the author need never lack employment. It begins with the suggestion that many thermal waters are radio-active; it makes mention of the legal annoyance to which the company has been put by rival proprietors, it describes the site of the famous spring in the valley of the Ahr, "in the midst of vines." Then comes an account of the output of the company, 30 million bottles per annum, with the comforting assurance that in spite of the enormous drain the spring shows no signs of being exhausted. The process of bottling is described, how a portion of the iron is removed by oxidation, how a film of carbonate of lime forms upon the surface: how, finally, salt is added "to slightly augment the amount already normally present." The analyses "are very full and are in substantial agreement with those given at various times by the late Professor Virchow, Professor Bischof, Professor Liebreich, Professor Mohr, Professor Hofmann, Professor Kekulè, Professor William Odling, and the late Sir Edward Frankland." names so eminent that one would thing this latest enquiry was a work of supererogation.

With true scientific candour the Commissioner does not categorically affirm that all the water, which is sold, issues forth from the spring but the inference is obvious. Lastly, there is not the slightest evidence to the ordinary reader that this exhaustive and expensive inquiry was undertaken for any other reason than the propagation of the truth.

THE McGILL UNION.

The McGill Union has at length taken definite form. Reports, elaborate and well considered, have been handed in by the building committee, and by the committees on organization and subscriptions. They have been collated and amended by the full executive committee,

and the results will be communicated at once to the whole university body, graduate and undergraduate. By the timely assistance, which the committee has received, the work of building can be proceeded with at once, and when the endowment and organization is completed, the Union will be ready to be handed over to the undergraduates for their enjoyment.

The present arrangements are that the building will be erected on Sherbrooke Street, at the corner of Victoria; it will be three stories in height, and will have for principal feature a living room, so fine in proportion, decoration and furnishings as to be of educational value, in addition to ministering to the material comfort of the students. There will be reading rooms and writing rooms, a retired place for the class trophies and club rooms for societies, where meetings may be held and the records kept. These rooms will be arranged so that they can be thrown together for social purposes. The billiard room will be arranged for at least three tables, and the kitchen will be elaborate enough in its appointments to permit of banquets and suppers being prepared, should occasion arise. It is not proposed at present to serve regular meals to students; there will be, however, facilities for serving a light luncheon and breakfast and dinner by the card. In addition to all this, there will be a music room with sound proof walls editorial rooms for the college papers, accommodation for bicycles and photographers, and a small space reserved for graduates to meet together. In anticipation of the erection of a gymnasium—not so unlikely an event as might appear—nothing will be provided for athletic exercises, beyond a fencing and boxing room with one or two showers and baths. There is a strong feeling that if squash racket courts could be provided, they would be of inestimable value to instructors as well as students.

The committee are firmly seized by the idea, that, if the Union is to be the meeting place of all McGill interests, every graduate must come in. To that end they are issuing to the graduates a full outline of the plans and aims of the Union, and appealing to them to manifest their loyalty to the University. This is the first occasion upon which they have had the opportunity of acting in their corporate capacity, and the Committee has reason to feel assured of prompt response to their appeal.

ADDITIONS TO THE MUSEUM.

The Museum of McGill Medical College has received a most valuable addition in the gift by Dr. Duncan McEachran of the important anatomical and pathological collections made by him in the course of

the last thirty years in Comparative Medicine, in short, of the entire museum of the late Faculty of Comparative Medicine, including an interesting series of specimens presented to Dr. McEachran by the late Dr. W. G. Gadsden, of Philadelphia. Apart from the extensive series of skeletons, models and other preparations illustrating the normal anatomy of the domestic animals, the collection is more particularly rich in examples of fractures and diseases of bone of the horse and cow. There are, for example, most interesting series of specimens illustrating the development of such conditions as spavin, splint, and ring-bone; another series illustrating acute laminitis and malformations of the horse's foot; a very full series of specimens of the dentition, normal and pathological, of the horse; another valuable series is that of intestinal secretions and hair balls from various animals. The museum also becomes the richer by a collection of the more common parasites of the domestic animals and additions to its collection of monstrosities. It is difficult to estimate the value of this gift; equally difficult, with the rapid growth of the museum under the curatorship of Dr. Maude Abbott, to know how to suitably house these and other recent additions.

At the same time, Dr. McEachran and the members of the late Faculty of Comparative Medicine of McGill have deposited in the library of the College, the libraries of the late Veterinary Medical Association and Society for study of comparative psychology, which were associated with the Faculty of Comparative Medicine. These collections amount to some hundreds of volumes and materially strengthen departments of the library previously, save for the Gadsden collection, somewhat deficient. The collection comprises the leading works upon Comparative Medicine and general psychology and contains a valuable series of journals. To this collection Dr. McEachran has added a series of old seventeenth and eighteenth century works upon Veterinary Medicine.

THE STATUS OF THE STUDENT.

The term *Alma Mater* is the expression of a sentiment of affection, rather than the statement of a legal fact. Events that have happened in the Faculty of Science promise to lead to an actual determination of the status of the student, unless good sense can be made to prevail. The University may stand to the student *in loco parentis*. A mother may gain in dignity by allowing her children to have recourse to the courts to obtain a definition of their mutual relation; or again, she may not, for the law is proverbially uncertain, and what she gains in dignity she will surely lose in affection.

Without undue pretense to wisdom, it may be affirmed that the University stands to the student in the relation of a mother, by virtue of a covenant of affection alone. In the law's eye, a University is merely a corporation created by the legislature, and entitled only to exercise those functions specifically assigned to it. It remains for the courts to say if these functions have been exceeded of if they have been properly exercised. Those, who contend that a Canadian University is armed with such authority as law and custom have conferred upon German and English institutions, are making their passion clearer than their argument, and it will not do to say that students, if they do not like that view of the case, may go elsewhere.

Even a mother may exercise only a discipline which is reasonable, and when that reasonableness is questioned, the rights and privileges of both parties should be considered impartially. It will not do either to allow the determination to be made exclusively by one side or by the other. The Faculty of Science and the students also would do well to remember: What I spent, I had; what I saved, I lost; what I gave, I have.

THE UNIVERSITY CONVOCATION.

The convocation in McGill University of the faculties of Arts, Law and Science, which was held on the 29th of April, differed little from former ones, though the number of graduates was larger and the proceedings rather more decorous than usual. Dr. Moyse for the faculty of Arts recounted the events of the past year with which all are familiar, the contest with the educational authorities of Ontario, the inadvisibility of recognizing extra-mural courses and the growing university spirit. Dr. Bovey's address was a relation of the widening influence of the Science faculty and Mr. Walton noted the steady growth of the faculty of Law. Professor Caldwell delivered the address to the graduates in what is described as highly academical language, though some may think it would have been none the less effective if it had been more simple and the terminology less abstract Many of the words, if not the thoughts, were new to this community. The address by M. Jusseraud was "inspirational," to employ the academical language referred to, and his simple theme was very grateful, that the secret of happiness is to be found in kindness.

THE PRIVATE BILL AGAIN.

The Legislature of Quebec, with its old proclivity for tergiversation, is again at work undoing an established principle by a private bill. Last session a law was passed affirming in set terms that no person

would be allowed to practise medicine by grace of the legislature, unless the applicant had first received the sanction of the College of Physicians and Surgeons. Private Bill No. 159, introduced by Mr. Taschereau, is in direct contravention of that law, and aims to set it aside. The legislature is the ultimate lair of human wisdom, but probably no one will contend that unaided it can by any intuitive process arrive at a correct judgment upon the fitness of a candidate for the profession of medicine. This thing does not concern the English speaking portion of the profession vitally, nor the French either, though both are working in harmony for its defeat. It does concern the public vitally. They require to have some better proof of a practitioner's capacity than his ability to secure the passage of a private bill, but most of all, they would like to have some assurance of the stability of legislative enactments.

At the present writing the affair does not look very hopeful, as it has been further complicated by the interjection into the discussion of incomplete information and ill considered opinion. Members of the profession and the public alike can only hope that in the end good sense will be allowed to prevail.

THE REGISTRATION OF BIRTHS.

A by-law, with the usual penalties attached, has been passed by the City Council, under which physicians are ordered to report all births occurring in their practice. To enforce such a by-law is probably beyond the power of the civic authority or the provincial legislature either. A similar attempt was made in St. John, but the prosecution was withdrawn, on the grounds that the Acts under which it was brought were *ultra vires* of the provincial legislature, and that such a gratuitous duty could not be imposed upon a body of men without their consent. The principle of the measure is good and it will encounter no factious opposition from the members of the profession. In common with other good citizens we desire to make government easy and not to add to its natural difficulties, but we should like to see the measure placed upon tenable ground. We are continually pleading for co-operation between all the elements of the community, French and English, lay and professional, in all matters affecting the public welfare, and in the not unlikely event of this by-law being found unworkable we trust that the civic authorities will feel free to avail themselves of such corporate wisdom as is possessed by the Medico-Chirurgical Society and La Société Médicale, which are now working in close agreement.

The Faculty of Arts has set at rest the movement in favour of extra mural courses advocated on behalf of teachers, who wished to proceed

to the degree of Bachelor. The Faculty, instead, has recommended bursaries for those who intend qualifying themselves for the profession of teaching, and the way will be made easy for them during the four years of their course, without any sacrifice of scholarship. There is something to be said for extra mural teaching in the technical subjects dealt with by other faculties, but it would be a departure from good tradition for the Arts Faculty to become an examining body merely. It was a cherished belief of the late Dean that Science students were not University students at all. This was probably an extreme view, but it would be a strange anomaly if the academic spirit, whose seat of election was, in his judgment, in the Faculty of Arts, should be allowed to depart without the walls. This encouragement of teachers toward a higher scholarship shows that the Faculty is alive to its higher functions, the oversight of education throughout the whole country.

The grievous disaster of fire, which befell the income of the Johns Hopkins Medical School, has been quickly retrieved through the munificence of Mr. Rockfeller. The statement is made in the newspapers, and it is not thereby necessarily false, that the donor was incited to this splendid act of liberality by having read Dr. Osler's Practice of Medicine. This work has many excellencies, but virtue of this kind, we venture to think, was unsuspected, even by the author himself. If the story be true, it is probably the only case on record in which the reading of a medical book by a layman has been productive of good. For the information of other rich men, if they should be willing to draw information from so lowly a source, we hasten to add, that not every graduate is in the habit of producing similar works. Yet, if one such book should arise out of this endowment, the money will not have been misapplied.

The two monograms on Uric Acid, which Dr. Halsey reviews for us in this number of the JOURNAL, we regard as of very great value. They differ from many other monographs on the same subject in that the author has held no brief for any particular view or theory. He has striven, and we think successfully, to examine in the extensive literature extant the results which have been obtained from investigation and the theories which have been advanced. He has separated from the enormous amount of material, that which has a firm basis on fact, and shows well many errors in methods of investigation, the fallacies in reasoning, and the non-agreement between theories and facts. Dr. Wiener, the author, is especially well qualified to undertake this difficult task, as he has carried out a number of important in-

vestigations upon uric acid and has attacked the subject from both the clinical and the laboratory side.

The Association of French-speaking Physicians of North America have issued a most cordial invitation to the profession at large, and officially to sister societies, to share in the deliberations of the Second Congress to be held at Laval on the 28th of June. Nothing but good can be accomplished by the fullest acceptance of this privilege.

THE GOOD PHYSICIAN.

The lengthening of the session from six to nine months postpones the valedictory address well into midsummer, to a time when great truths do not find so ready an entrance into the graduate mind, as in the customary month of May. For three and thirty years, the Spring number of this Journal has been enriched by the wisdom of a valedictory address, and it does not seem right that this one should issue forth wanting in that particular. We shall therefore pretend to supply from another source something that will take its place, setting up, as it were, a tulchan valedictory.

Last year, Dr. Buller lamented the paucity of themes, which were open to one, about to indulge in that form of revelation. There is, in truth, but one theme fitting for the occasion, namely, the personal responsibility of the enfrants into the profession towards themselves, towards each other and towards those to whom they are about to minister. The thing is a rite, a ceremony performed in an established or prescribed manner. It has a ritual of its own, which should be conducted within the University walls, instead of in some chance meeting place, and it should be done with the full ceremonial of academic pomp and dignity.

There need be no hesitation on the part of a valedictorian in choosing The Good Physician for his theme. It has the sanction of custom. It has been done before, and by none better than by Thomas Fuller, "whose wit, alike in quantity, quality and perpetuity, surpassing that of the wittiest in a witty age, robbed him of the praise due to him for an equal superiority in sound, shrewd good sense and freedom of intellect." But that is long ago, near three hundred years; some may have forgotten his counsel, and that is the present excuse for recalling the words of the eminent divine to the minds of valedictorians, who may be in search of inspiration.

The Holy State and the Profane State was published in 1642, and contains an estimation of the Good Physician in a number of maxims.

Maxim I.—*He trusteth not the single witness of the water, if better*

testimony may be had.—" For reasons drawn from the urine alone are as brittle as the urinal. Sometimes the water runneth in such post-haste through the sick man's body, it can give no account of anything memorable in the passage, though the most judicious eye examine it. Yea, the sick man may be in the state of death, and yet life appear in his state."

The painstaking gentlemen who published the account of a case of Eclampsia in the last number of this JOURNAL will likely dissent from this judgment, but the physicians of those days had to depend upon the eye alone, without the aid of apparatus for the estimation of urea. Their knowledge of the gross appearance of the excretions was profound, and one eminent diagnostician records the inference to be drawn when the excrement is "elaborately curled."

Maxim II.—*Coming to his patient, he persuades him to put his trust in God, the Fountain of Health.* "The neglect hereof hath caused the bad success of the best physicians: for, God will manifest, that though skill come *mediately* from Him to be gotten by man's pains, success comes from Him *immediately* to be disposed at his pleasure."

Upon this maxim one might make an excursion into exegetics, and take for a text the verses which describe the case of that Judaean king, "of perfect heart," yet "diseased in his feet." This unhappy man "sought not to the Lord, but to the physicians," and the consequences are stated in the ensuing words with rare precision: "And Asa slept with his fathers." If one were minded to enter into the matter of faith healing, much might be said, but what would be said might not be true. At least that is a fair inference from much of the writing that has been done upon the subject.

Maxim III.—*He handsels not his new experiments upon the bodies of his patients.*—"Letting loose mad receipts into the sick man's body, to try how well nature in him will fight against them, whilst himself stands by and sees the battle; except it be in desperate cases, when death must be expelled by death."

There are those who would disagree with this wise counsel. We are content to follow it, and let loose our mad receipts upon bodies lower than our own, and, standing by, watch the battle between nature and the drug.

Maxim IV.—*To poor people he prescribes cheap but wholesome medicines.*—"Not removing the consumption out of their bodies into their purses; nor sending them to the East Indies for drugs when they can reach better out of their gardens."

The treasurer of any hospital will testify, that, whether the medi-

cines now administered to the poor are wholesome or not, certainly they are not cheap. Last year the Montreal General Hospital spent nearly twelve thousand dollars in drugs and surgical appliances.

Maxim V.—*Lest his apothecary should oversee, he oversees his apothecary.*—"For, though many of that profession be both able and honest, yet some, out of ignorance or haste, may mistake: witness one of Blois, who, being to serve a doctor's bill, instead of *optimi* (short written) read *opii*, and had sent the patient asleep to his grave, if the doctor's watchfulness had not prevented him. Worse are those who make wilful errors, giving one thing for another. A prodigal who has spent his estate, was pleased to jeer himself, boasting that he had cozened those who had bought his means. 'They gave me,' said he, 'good *new* money, and I sold them my great-great-grandfather's *old* land.' But this cozenage is too too true in many apothecaries, selling to sick folk for *new* money *antiquated* drugs, and making dying men's physic of dead ingredients."

Prescribers of drugs are not infallible in these days either and mistakes in prescriptions are yet common enough, if we believe what we hear from the law courts. Nor have we yet eradicated the vice of substitution. The manufacturer of a proprietary preparation could not state the case against the practice with more vigour than does the worthy divine. The chemist of the Inland Revenue Department told us, not long ago, something about "antiquated drugs." Out of 15 samples of tincture of opium examined only four were genuine; half the samples of citrate of iron and quinine were adulterated. Of 23 samples of tincture of gentian, nine were adulterated; of 11 samples of tincture of cardamons five were adulterated; of camphor two out of six; of myrrh five out of 17; of rhubarb 14 out of 21; of calumba one-third; of ginger four out of seven; of squills four out of six; of jalap one-fourth the samples; of buchu every one. Carrying the research further, into spirits of nitrous ether, and dilute hydrocyanic acid, the official analysts found the same results. Only one sample out of nine of the former was found correct; some had no nitrous ether and several others were practically useless.

Maxim VI.—*He brings not news, with a false spy, that the coast is clear, till death surprises the sick man.*—"I know, physicians love to make the best of their patient's estate. First, it is improper that *adjutores vitae* should be *nuncii mortis*. Secondly, none, with their goodwill, will tell bad news. Thirdly, their fee may be the worse for it. Fourthly, it is a confessing that their art is conquered. Fifthly, it will poison their patient's heart with grief, and make it break before the time. However, they may so order it, that the party may be informed

of his dangerous condition, that he be not outed out of this world before he be provided for another.

Maxim VII.—*When he can keep life no longer in, he makes a fair and easy passage for it to go out.*—He giveth his attendance for the facilitating and assuaging of the pains and agonies of death. Yet, generally, it is death to a physician to be with a dying man.

Maxim VIII.—*Unworthy pretenders to physic are rather foils than stains to the profession.*—Such a one was that counterfeit who called himself "the Barron of Blackamore," and feigned he was sent from the Emperor to our young King Henry VI., to be his principal physician. But, his forgery being discovered, he was apprehended, and executed in the Tower of London, *anno* 1426, and such the world daily swarms with. Well did the poets feign Aesculapius and Circe brother and sister, and both children of the sun; for, in all times, (in the opinion of the multitude), witches, old women, and impostors have had a competition with physicians. And commonly the most ignorant are the most confident in their undertakings, and will not stick to tell you what disease the gall of a dove is good to cure. He took himself to be no mean doctor, who, being guilty of no Greek, and being demanded why it was called a *hectic* fever: "Because," saith he, "of an *hecking* cough which ever attended that disease."

This maxim requires no gloss, yet a Valedictorian would do well to elaborate the idea, that unworthy pretenders to physic are but foils to set off the Good Physician, that the qualities of acuteness in observation, reliance upon that power which is not ourselves, conservatism in the employment of remedies, consideration for the poor, skilfulness and honesty, and carefulness in the details of treatment, a correctness of demeanour towards the great mystery of death, are yet as essential to the Good Physician as they were in the days of the worthy Fuller.

Reviews and Notices of Books.

A Practical Treatise on Nervous Diseases. By F. Savary Pearce, M.D., Professor of Nervous and Mental Diseases, Medico-Chirurgical College of Philadelphia; 401 pages, with coloured frontispiece, and ninety-one illustrations in the text. D. Appleton & Company, New York. Morang & Co., Toronto. 1904.

This book is admirably made, as all of Appleton's books are; the illustration is sumptuous, though many of the plates are familiar to readers of Butler's excellent book, published by the same firm. The first section is devoted to the anatomy of the nerve structures, the second to physiology, the third to chemistry, and then follows a consideration of

general pathology, sclerosis degenerations, gliosis and inflammations. General symptoms, methods of examination and nomenclature have a chapter of their own, and it is succeeded by one upon general therapeutics, with mention of the various remedial measures. Symptomatic disorders are next considered, including vertigo, insomnia, the neuralgias and headache. The disorders of the various portions of the system are then taken up, and the book concludes with functional diseases, vasomotor and trophic disorders, toxæmias and general paresis. An appendix completes the volume. From the foregoing it will appear that the arrangement is orderly, and on examination, each section will be found well filled yet not overloaded. Dr. Pearce does not tell us all he knows about the subject, but he tells enough to make the book entirely adequate for those for whom it is intended, the medical student and the general practitioner.

Infection and Immunity, with special reference to the prevention of Infectious Diseases. By George M. Sternberg, M.D., LL.D. G. P. Putnam's Sons, New York and London, 1903.

This volume is the twelfth in the Science Series published by the Messrs. Putnam, and twelve more are in course of preparation. The series covers the whole range of science from the study of man and his environment to the bacteria. The name of the author, George M. Sternberg, recalls the remarkable career of a medical officer at an obscure army post, who worked amidst many discouragements and finally became surgeon-general of the United States army. What Pasteur was to France Dr. Sternberg was in the United States. The scope and value of his work is not yet fully apprehended even by bacteriologists. Those who require any high revelation upon the subject of Immunity must go elsewhere for a stimulation of their curiosity; this book contains only so much as is proved, and is therefore the more valuable for the readers for whom it is intended. Speaking of this volume alone, it is a remarkably successful attempt to bring to the people a sound knowledge of the dangers to which they are exposed, and of the means by which those dangers may be avoided.

Disease of the Eye. By L. Webster Fox, A.M., M.D., Professor of Ophthalmology, Medico-Chirurgical College, of Philadelphia; Five coloured plates and 296 illustrations; 584 pages. D. Appleton & Co., New York and London; Geo. N. Morang & Co., Toronto.

This is another of the numerous recent special treatises on Ophthalmology, most of which present no claims to originality and no apparent reason for their production other than those which are personal to the writers. The handsome volume now under consideration is

copiously illustrated, provided with index, glossary and ophthalmic formulæ to suit alike the casual reader or diligent student. In arrangement and general presentation of the subject the author has certainly produced a very readable and attractive work in which he has incorporated no fewer than fourteen original devices of his own in the way of instruments, methods of operation and of treatment. This is a feature which cannot fail to lend a special value to the work and establish its position as one worthy of a place in every special library of ophthalmic literature.

The International Medical Annual: A Year Book of Treatment and Practitioner's Index. Twenty-second Year. New York; E. B. Treat & Company, 1904.

This is the twenty-second year of publication of this excellent index to the literature of the past year. A departure in the present volume is the introduction of stereoscopic views . Their examination with the instrument provided, facilitates the study of structures which by other methods are difficult of illustration. The section devoted to diseases of the ear is admirably illustrated by a set of twelve stereograms. There is also a series of plates representing the distribution and nature of the eruptions in infectious diseases such as smallpox, scarlet fever, measles, typhoid and typhus. The sections on serum therapy, radio-activity, and electro-therapeutics have required a great deal of careful review. The examination of the literature has been very exhaustive, and nothing of serious interest seems to have escaped notice. The convenient size and dictionary arrangement of this volume, supplemented by a full index, make it a most valuable year book.

General Pathology. By Dr. Ernst Ziegler, translated from the Tenth Revised German Edition (Gustav Fischer, Jena, 1901). Edited by Alfred Scott Warthin, Ph.D., M.D. William Wood & Co., New York; Chandler and Massey, Toronto, 1903.

A book which has reached the tenth edition, which is employed wherever medicine is studied or taught, requires no further mention, beyond the fact that a new issue has appeared. Ziegler's Pathology is more than a text-book; it is a complete record of the science of the causes, nature and course of the processes of disease. If one were to enumerate the notable features of the work, it would be merely a rewriting of what has been said on many previous occasions in these pages.

Anatomy Applied to Medicine and Surgery. By D. E. Mundell, B.A., M.D., Professor of Applied Anatomy, Queen's College, Kingston.

We welcome any signs of activity in Canadian colleges, and make

respectful mention of this book by Dr. Mundell. In a first edition of a publication upon so technical a subject errors are bound to occur, but a list of thirty-three errata in the outset is apt to create an unfavourable impression. Even the title page is marred by an error, which is hard to excuse. The book deserves better things at the hands of the printer and paper maker, and had it appeared in a better dress, we venture to say it would take its place amongst the standards of Applied Anatomy. For those who are not deterred by superficial faults, the book will afford pleasure and profit; they will find in it a good style, breadth of view and an easy handling of material. The description is powerfully done, and the observations are made with acuteness and judgment.

Diseases of the Intestines, a Text-Book by Max Einhorn, M.D., Professor of Medicine at the New York Post-Graduate School and Hospital: Second Revised Edition, New York, William Wood & Co.; Toronto, Chandler, Massey & Co. 1904.

The first edition of this book was published in 1900, and was quickly exhausted; the present edition is issued to supply its place, rather than to record any great advance in this branch of medicine. The book contains a true record of the present state of knowledge and also of sentiment in regard to Diseases of the Intestines. The references to the literature are very copious, and opinions are freely cited; in the first two hundred pages there are 184 references, 126 being to foreign books or publications. The work is well balanced, and treatment receives a full share of consideration.

A Text-Book of the Practice of Medicine, designed for the use of students. By. James Magoffin French, M.D. Illustrated by ten full page plates and fifty wood engravings. New York, William Wood & Co.; Toronto, Chandler and Massey, 1903.

This book is an important addition to the works now extant upon the Practice of Medicine. It is more formal and systematic than some other recent presentations of the subject; it opens with a general consideration of the principles of medicine and ends with an account of the clinical methods of examination. The arrangement is orderly: the work is well balanced, and the various aspects of disease are presented with due regard to their importance. We venture to predict that this book will take its place among the standards in medicine.

A Manual of General Pathology. By Dr. Sidney Martin. 8vo. 502 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Chandler, Massey & Co., Toronto.

Medical News.

CANADIAN MEDICAL ASSOCIATION.

Good progress is being made in Vancouver towards the thirty-seventh annual meeting of the Canadian Medical Association on the 23rd, 24th, 25th and 26th of August. This is the first occasion on which the Association has met west of Winnipeg. The principal guest will be Mr. Mayo Robson, and the names of the other visitors will be announced later. A banquet will be held in Vancouver on the evening of the second day. The next day the delegates and their friends will take the steamer Princess Victoria for Victoria. A run will be made to William Head quarantine station, and the return to Victoria will be made by way of Esquimalt, to view the naval arrangements and the fortifications. Upon arriving in Vancouver, a reception will be arranged for at the legislative buildings. The following day will be given up to visiting the many points of interest about the city, including the sea drives, and in the afternoon Esquimalt and the Naval hospital will be visited. A trip up the Arm by moonlight is also contemplated on the second day and a band concert will be given on that evening.

Although the official circular from the railway companies has not yet been received, it is expected that the date of sale of tickets will open on the 15th of August and following days; the time limit will be two months, and will not be extended beyond that. Tickets will be sold only to delegates and immediate members of their families, on presentation of certificate from the General Secretary, and those who have not already done so should file their names with that official at an early date. Under the arrangements made, tickets will be good going by Canadian Pacific direct, via Port Arthur or via Sault Ste. Marie, St. Paul, thence Soo-Pacific route, Great Northern or Northern Pacific; or via Detroit, Chicago, St. Paul, thence Soo-Pacific route, Great Northern and Northern Pacific, returning same route or any other of the above routes. Returning, diversion can be made via St. Paul to St. Louis at an additional cost of $10.00, and from St. Louis to Detroit, where travellers will rejoin either Canadian Pacific Railway, or Grand Trunk Railway to their homes according as tickets read. Should any wish on return journey to visit the Yellowstone Park they can do so on payment of the extra charge made for the trip through the Park from the junction with the Northern Pacific Railway. No other arrangements have been made so far, but the General Secretary is in communication with the Union Pacific to provide for return via California, Salt Lake City and Colorado. If any arrangements are made for special train, these will be announced in due and proper

time. The following gives an approximation of the rates from all points east of Port Arthur: Toronto, Brantford, Hamilton, Windsor, Chatham, London, Stratford Guelph, Orillia, $62.40; Montreal, Ottawa, Brockville, $68.00; St. John, N.B., $76.50; Halifax, via I.C.R., $81.00; Sydney, $83.70. Winnipeg and points in Manitoba, $45.00, but full arrangements for this have not as yet been fixed. One certificate only will be required to be presented by delegate for his own use and the immediate members of his family; and only to those who file their names with the General Secretary can be sent these certificates. The berth rate to Vancouver in each direction from Toronto and Montreal is $17.00 and $18.00 respectively. Those contemplating attending should send in their names without further delay to the General Secretary, Dr. George Elliott, 129 John Street, Toronto.

THE McGILL JOURNAL CLUB.

The medical library of the University has earned for itself an enviable reputation among the libraries of the continent. Yet its list of standard journals is far from complete; and many a worker, seeking references, has been met by the bald statement: "not taken by the library." To meet this want is the object of the McGill Journal Club, lately established. The Club starts with a membership of about 60, including a majority of the teaching staff of the Medical Faculty. The subscription price is two dollars a year. The funds are to be devoted to securing standard journals in the various branches of medicine not already taken by the library or by the special laboratories.

At a meeting lately held, the following officers were elected: Honorary President, Dr. Roddick; President, Dr. Archibald; Vice-President, Dr. Gillies; Secretary, Dr. Nichols; Treasurer, Dr. Morrow. A committee of ten, each member representing a special branch of medicine, has also been elected; and the duty of each is to consult all the members interested in the particular branch he represents as to the choice of the journals devoted to that branch. At a very small individual cost, the usefulness of the library can be largely increased.

The journals are to be kept upon special shelves in the McGill Medical Library, and may be taken home by members upon the same general conditions as prevail for the regular library periodicals.

Any duly qualified practitioner, resident in the city and district of Montreal, may become a member. The membership is not limited to the teaching staff, nor even to McGill graduates. The larger the membership, the more useful does the reference library become. And it is hoped that the evident value of the Club may induce a large number of the practitioners of the city, whether French or English, to join it.

McGILL POST-GRADUATE COURSE.

The ninth post graduate course for general practitioners will be conducted by the Faculty of Medicine, McGill University, for four weeks beginning Monday, May 30th, and closing June 24th. The programme will comprise the following branches: Laboratory instruction, including microscopical methods; clinical microscopy; clinical chemistry and urinalysis; analysis of stomach contents, and clinical bacteriology.

Special demonstrations will be given as follows: Operative gynæcology, Dr. Gardner; operative midwifery, Dr. Cameron; sanitary topics, Dr. Starkey; clinical use of the Roentgen Rays, Dr. Girdwood; demonstrations on post-mortem specimens, Dr. McCrae; medical examination for life insurance, Dr. Wilkins.

Medical and surgical clinics will be held in medicine at the Montreal General Hospital by Drs. Blackader and Campbell; in surgery, by Drs. Shepherd, Elder and K. Cameron; at the Royal Victoria Hospital in medicine, by Drs. Martin and Hamilton; in surgery, by Drs. Bell, Garrow, Archibald and Keenan.

Clinics in special departments will be given as follows: In ophthalmology, including demonstrations in the use of the ophthalmoscope, Drs. Buller, Stirling and Byers; dermatology, Dr. G. G. Campbell; genito-urinary surgery, Drs. Bell and Springle; orthopœdics Dr. C. W. Wilson; laryngology, Drs. Birkett and H. D. Hamilton; gynæcology, Drs. Gardner, Lockhart and J. D. Cameron; obstetrics, Drs. J. C. Cameron and Evans; diseases of children, Drs. Blackader and G. G. Campbell.

WESTERN GENERAL HOSPITAL.

The quarterly meeting of the Western Hospital was held on April 18th. During the last quarter 133 patients were admitted to the hospital; 93 were Protestants, 38 Roman Catholics, two Jews, 61 males, and 72 females. Of these 116 were residents of Montreal. On the 1st of January there were 34 patients in the wards, 128 have since been discharged, seven have died, and 29 are still inmates of the institution. The ambulance calls during the last quarter numbered 39.

The record for the outdoor department brings the total number of consultations to 1,783, which shows a decrease of 219 from the corresponding quarter of 1903. The consultations for the last quarter are distributed as follows: Medical, 534; surgical, 268; gynæcological, 317; eye and ear, 141; nose and throat, 256; skin, 56; genito-urinary, 211.

There were 50 patients admitted to the hospital during the month of March, 49 discharged and four died; 20 medical, 23 surgical and seven

gynaecological. In the Outdoor Department there were 646 consultations during the month; 211 medical; 69 surgical; 133 gynæcological; 63 eye and ear; 102 nose and throat; 20 skin and 48 genito-urinary.

JEFFREY HALE HOSPITAL.

By the terms of the will left by the late Mrs. J. F. Turnbull, of Quebec, the Jeffrey Hale Hospital receives the magnificent sum of $500,000, on condition that an addition to the present building be erected, to be known as the Mackenzie Wing, in memory of the donor's father, the late James Mackenzie, of Quebec.

A nurses' home will also be erected, and the space now occupied by the nurses will be utilized to increase the accommodation for patients. The Home will fill a want that has been very much felt, both by giving room in the main building, and in providing for the nurses better quarters.

The Training School, opened in 1901, is now in a most satisfactory condition, and within the next few months the first graduates will be granted their diplomas. The number of applications for admission to the Training School during the past year has been larger than the hospital demanded, and the standard is being raised accordingly.

MONTREAL GENERAL HOSPITAL.

During the month of March there were 254 patients admitted to the wards of the Montreal General Hospital, and 250 were discharged. The deaths numbered 19. One hundred and one ambulance calls were responded to. The daily average sick for the month was 196. The greatest number in any one day was 208. | There were 3,383 consultations in the outdoor department. The medical wards are at present being thoroughly cleaned and painted.

HOTEL DIEU.

During the month of March 218 indoor patients were admitted, 103 men and 115 women; 408 patients were treated in the various wards, 206 male and 202 female, and 192 were discharged, cured or improved. Twenty-one deaths were recorded; 17 among the female and four among the male patients; 76 major operations were performed. There were 368 treated in the general dispensary, and 176 in that of the eye, ear and nose.

ROYAL VICTORIA HOSPITAL.

Monthly report for March: Patients admitted, 284; discharged, 262; died, 17; ambulance calls, 74; medical, 93; surgical, 142; ophthalmolo-

gical, 25; gynæcological, 22; laryngological, 20. Outdoor department: Medical, 894; surgical, 487; ophthalmological, 319; gynæcological, 132; laryngological, 322; total, 2,154.

Dr. L. de L. Harwood will succeed the late Dr. Brennan as professor of gynæcology in Laval University, and will also be chief of the gynæcological department in the Notre Dame Hospital. Dr. Harwood has also been chosen president of the section of gynæcology of the Medical Congress of French-speaking Physicians of North America, which is to meet here in June. Dr. A. Ethier becomes Dr. Harwood's successor.

Dr. Hodgetts, the newly appointed chairman of the Ontario Board of Health, is marking his entry into office by insisting upon a better registration of cases of infectious disease. He finds that in 1902 there were returned to the department 1,542 cases of typhoid fever, while the hospital statistics show 2,067 cases, with 242 deaths. In 1903 a return from the 700 divisions showed 1,012 cases, while in the hospitals there were 1,918, with 398 deaths.

The report of the McGill Medical Library shows that during the quarter ending January 31st, the number of readers was 4,702, and the number of volumes taken out 1,721. In the previous quarter the number of readers was 3,950, and the number of volumes taken out was 1,217.

A by-law to provide for the raising of $100,000, to be devoted towards the erection of a modern hospital building is to be submitted to the people of Vancouver. It is estimated that a three-story stone building of modern construction will cost $200,000. Half of that sum is already in hand.

Dr. Ernest Wills, of Calgary, is building a sanitarium for consumptives, where patients suffering from the disease will have every facility for care and treatment. Dr. Wills is at present in Montreal in connexion with his work.

The fourth annual meeting of the Canadian Association for the prevention of consumption was held in Ottawa on the 20th of April. Dr. Ravenal, of the Henry Phipps Institute, Philadelphia, delivered an address upon Animal Tuberculosis in relation to human health.

The new Sanitarium for Consumptives, at Kentville, will be opened next month. It is one of several which the Government of Nova Scotia proposes to build.

Dr. Campbell, McGill, '02, has resigned from the position of House Surgeon in the Ottawa Isolation Hospital, and Dr. Sherriff, Queen's, '03, has been appointed in his stead.

Buckingham is to have a general hospital. The new building will be 80 by 40 feet, and four stories high, and will cost $18,000. The institution will be in charge of the Grey Nuns.

The Nova Scotia branch of the British Medical Association completed the work of the season on the 13th of April. Dr. D. A. Campbell read a paper upon the Pioneers of Medicine in Nova Scotia.

Dr. Carter, coroner of Moosomin, died on the 16th of March, from pulmonary hæmorrhage. He is survived by a wife and four children.

C. W. Oliver, of Westville, Medicine, '07, died on the 21st April, as a result of otitis media with heart lesion. A funeral service was held in the chapel of the Royal Victoria Hospital, and the students and faculty attended in a body.

Dr. Herbert C. Featherston died at his father's house in Toronto on the 7th of April, of pleuro-pneumonia. Dr. Featherston graduated from McGill University in 1902; he subsequently went to Edinburgh, where he took the three qualifications of the Royal College of Surgeons, and in November last he returned home in a somewhat feeble state of health.

Society Proceedings.

OTTAWA MEDICO-CHIRURGICAL SOCIETY.

Eleventh Meeting, March 3rd, 1904.

DR. F. X. VALADE IN THE CHAIR.

The paper of the evening was read by DR. J. FENTON ARGUE, the subject being Chlorosis. The paper dealt with the pathology, symptomatology and treatment of the condition.

Twelfth Meeting, March 24th, 1904.

(At the Water Street Hospital.)

DR. H. B. SMALL, PRESIDENT, IN THE CHAIR.

Dr. Chabot presented a case of excision of the hip joint for Hip-Joint Disease with abscess formation. The result was a useful movable joint, but with 2½ inches of shortening.

Dr. Chabot also showed a case of Cholelithiasis, in which he had

done a cholecystotomy; 149 gallstones were removed. The gall bladder was immediately closed, with drainage of the peritoneal cavity. The recovery was uninterrupted.

Dr. R. S. Minnes showed the specimen of a lens removed for Cataract, in the centre of which was imbedded a piece of steel. The injury was received twenty years before operation.

Dr. Minnes also showed a case of Double Congenital Coloboma, with Detachment of the Retina. This had been improved by the injection of 10 per cent. salt solution into the vitreous chamber.

Dr. C. P. Dewar showed—I. A case of Movable Cartilage of the Knee Joint — post-operative with specimen. The injury was received three years ago.

II.—Case of Hysterical Aphasia. The aphasia developed after a few days of malaise, and was at first accompanied by athetosis. Recovery has been gradual.

III.—Specimen of Sarcom of Tibia, from a boy of nineteen. Six years ago he received a blow over the inner malleolus. Three years after, the swelling now present was first noticed, and growth since was gradual. The leg was amputated through the knee joint.

Dr. Thos. Gibson exhibited a case of Lupus Vulgaris of the Face, which had resisted treatment by X-rays, but was improving under application of pure carbolic acid followed by alcohol.

Dr. W. J. Bradley read a short note on Accidents in the Administration of Chloroform, with especial reference to the presence and detection of certain impurities.

Thirteenth Meeting, March 31st, 1904.

Dr. H. B. Small, President, in the Chair.

Dr. F. X. Valade read a short paper on Eclampsia and its Treatment.

The discussion was general; those taking part were Drs. Hanna, Robinson, Basken, Parent and Small.

SOCIETE MEDICALE DE MONTREAL.

Dr. Valin, President, in the Chair.

Meeting of 22nd March, 1904.

The announcement of Dr. L. Coyteux Prevost's lecture, under the auspices of the Société Médicale de Montréal, brought a large gathering of the French speaking element of the medical profession of Montreal and the suburbs. The subject of the lecture, "Parmi nos tombes," was enigmatic, and the audience was taken by surprise, when Dr.

Prevost announced that instead of relating his successes, he had chosen to speak of the disasters he had met in his surgical career. He invited his hearers to follow him into his little cemetery, and detailed the clinical history and the operation which, prehaps, had hastened the end of the patients. This, he held, would prove more instructive and, perhaps, shield others from the same mishaps, as the causes of death in these unfortunate cases were plainly given.

Dr. Lamarche in discussion, said, that the lecturer had shown them in the course of a direful promenade "among the graves" the drawbacks of abdominal surgery, and the marvelous progress accomplished by modern methods. It was evident to him that obstetrics had not kept apace with the advance of the other branches of medicine, and that the *accoucheur* was the most active provider of the gynæcologist. "Bad midwifery makes rich gynæcology," he said. Many were the obstacles which confronted the obstetrician, both on the part of the parturient and her surroundings, and on the part of the attendants in regard to the difficulty of application of aseptic and antiseptic principles.

The president thanked the lecturer and the meeting adjourned.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Thirteenth Meeting, April 15th, 1904.

H. S. Birkett, M.D., President, in the Chair.

Dr. Birkett and Dr. Nicholls read a paper upon a rare form of Otomycosis due to the Aspergillus Glaucus. Dr. Birkett gave the clinical report of the case and Dr. Nicholls illustrated the growth by diagrams on the blackboard. This paper appears at page 338 of this number.

In the discussion which followed, Dr. Archibald pointed out that moulds are not commonly troublesome, because they rarely grow at the temperature of the body, and he said that those which seem to be pathogenic for animals are apparently not so for man, and that those moulds which do grow at body temperature are apparently very rarely pathogenic. Dr. Birkett, in reply to a question by Dr. Elder, explained that the deafness produced was of the obstructive form. The growth seemed to limit itself to the skin of the auditory canal and though the drum membrane is covered with a very thin epidermal layer yet it did not seem to attack the drum membrane itself. He knew of a case in the literature, in which the mould had invaded the drum membrane and penetrated into the middle ear.

Dr. J. M. Elder reported a case of acute Intestinal Obstruction following Syphilitic Ulceration in the Ileum.

Dr. Armstrong discussed the case at length and said: In some respects this case is similar to two cases of ulcer, supposedly syphilitic, of the stomach, which I have noted. One was reported by Dr. Finnie of Baltimore, the other occurred in the practice of Dr. Lafleur. This latter case was that of a man who had all the symptoms of ulcer and gastric dilatation for some years; he had visited most of the surgeons in New York and Dr. Osler had reported that he had a large dilated stomach. He returned home in a very grave condition of emaciation and when I examined him, some time after Dr. Osler's examination, I found the stomach very much contracted, to nearly a third the normal size, and in the posterior wall a large ulcerated area, fully as large as the palm of the hand with thick, well defined sharp edges; the adhesions about the stomach were very strong and broad, so much that they gave rise at first to the impression that it was a carcinoma; they were not infiltrating adhesions but regular bands. After gastro-enterostomy and inunctions of iodides the man made recovery up to the point of weighing more than he ever did with no restrictions in diet. Dr. Lafleur reported the case at Washington before the Association of American Physicians and in the Montreal Medical Journal. It was regarded by Dr. Lafleur and Dr. Osler as probably of syphilitic origin; the case improved after the exhibition of the iodides. There is in Dr. Elder's case a great similarity, in that there was this contraction and narrowing with the formation of these strong bands of adhesions.

Dr. Hutchison reported seven cases of fracture of the patella, and five of the cases were exhibited at the meeting. These patients had perfect use of the limb and it would be hard to tell which limb had been injured; in only one case was there any weakness noticeable and this was a case treated nine years ago by the posterior splint and strapping method.

Dr. Archibald: Dr. Hutchison is to be congratulated upon such an excellent series of cases. It does not always happen that we get such good function, even with the later operation. Early movement strikes me as being of great benefit in these cases. It seems on the face of it a risky thing to subject a patient with a fracture within a week to movements which may disturb the fragments, but the advocates of this procedure show the best results. It does away with the atrophy of the quadriceps, which is so troublesome in cases treated in the old way. Another point of interest illustrated by non-operated cases is that they often seem to do well if the fragments are not very far apart, yet with the lapse of time this distance becomes very much

increased, as the fibrous union is very apt to be lengthened out by use, whereas firm bony union resists any such strain; one of the skiagrams illustrates this well, showing the separation much wider than when the first photograph was taken.

Dr. St. Jacques: I am also in favour of the early movements and massage and in one of my cases I advised crutches after the fifth day. I also have had occasion to see cases treated by the old method, and in one case there remained about a half inch space between the two fragments, but the patient was lame and could only bend his knee a few inches. This has induced me to advise surgical interference. I have seen atrophy of the quadriceps after but two weeks immobilisation.

Dr. Armstrong: I have always felt some diffidence in bringing such cases as these before students as such operations should only be done by experienced hands. I have never had any trouble with wiring patellæ, but I have seen stiff joints result with even amputation required, and death may follow the operation. It is a serious question whether one should be willing to run the great risk of infection of the knee joint for the sake of a better result which may be obtained if all goes well. Personally, I should want to know that I had a very good surgeon, that he was well equipped, that his assistants were capable and that he had a technique which he was using daily and was familiar with. The advantages and disadvantages of the case should be placed before the patient. With regard to the time for operating one does not always receive these cases early, but in cases where there is traumatism of the soft tissues one should wait until they are at their best resisting power. After an injury the circulation is interrupted and probably the lymphatics as well so it is better to wait till all temperature has subsided. A man should be able to do this operation absolutely without letting his fingers get into the wound. In general one should do this operation with rubber gloves, preferably new ones and nothing should enter that wound unless absolutely sterile. As to the stiffness afterwards that is very largely obviated by getting the patient up and walking about. The question as to the operation is still debatable, but I believe the technique is becoming more perfect every day and this is the proper operation provided the patient is in a suitable condition for it. I congratulate Dr. Hutchison on this remarkable series, and I think his results are such as one might well be proud of.

Dr. Hutchison: We all know that the getting of the patient on his feet and the walking about for the protection of the muscular tone of the quadriceps is the key to the situation, the bony repair goes on and

retains the suture material if it is properly applied. In regard to the question of operation I too have taught students the difficulty referred to by Dr. Armstrong, and I might say that in every one of the cases the whole condition has been placed before the patient. The tear of the aponeurosis has been the basis of my decision in operating, it was present in all my cases, and the inability of the quadriceps to lift the leg up proves that it is a distinct rupture of continuity between the thigh and the leg. With regard to the clot I concur in the belief that it could not be removed by aspiration until too late to be of service to the strength of the limb.

Fourteenth Meeting, April 15th, 1904.

H. S. Birkett, M.D., President, in the Chair.

Dr. A. Primrose, of Toronto, read a paper upon Some Observations on the Surgical Treatment of Chronic and Acute Nephritis. The paper appears at page 317 of the May issue of this Journal.

In the discussion which followed, Drs. Shepherd, Martin, Finley, Mills, Adami, Garrow and McCrae took part.

Dr. Adami: Thinking over what Dr. Primrose has told us this evening — the full presentation of his first case with its history of marked improvement following upon the operation, followed later by indications of disturbed kidney function, and the further evidence he has afforded us that experimental decapsulation of the kidney is followed by cicatrization of the surface and consequent destruction or injury to the cortical tubules—there has been recalled to me the definition I gave some years ago of inflammation, namely, that it is the attempt at repair of injury. I had then to point out that attempted repair and repair are two very different things, that inflammation, however benign, rarely accomplished the complete restoration of a part to its previous integrity; that the reaction was either in excess of the needs of the organism or inadequate. And what is true of inflammation must be true also of surgery and of our experimental attempts at repair, for, after all, what the surgeon accomplishes or attempts to accomplish is of the nature of a simple uncomplicated inflammation. The surgeon by his intervention cannot bring about an absolute return to the normal. And so it is with decapsulation of the kidney. We may hope that this will accomplish a temporary improvement, possibly by reduction of tension; we cannot expect that the tissue which comes to replace the capsule will be perfect. On the contrary, we must expect that, if formed of cicatricial connective tissue, it must, like all such cicatricial connective tissue, tend to contract. What has been so striking in this evening's paper is the calm and scientific way in

which the whole matter has been discussed. Remembering that Dr. Primrose was one of the pioneers in this operation, it would have been natural had he been carried away by enthusiasm. On the contrary, he has throughout endeavoured to determine the truth. He has given us an example of the methods of pure science applied to the clearing up of a surgical problem.

Dr. Finley: Dr. Primrose's first case is convincing of the benefits which may accrue in certain cases. Personally, I have been rather prejudiced against the operation in chronic Bright's disease, and, consequently, I have not recommended very many cases for the performance of the operation. In one instance, Dr. Armstrong operated on a woman in middle life who had had œdema of the lids for several years. In this case the capsule was stripped on both sides at one sitting, and the woman has been free from the symptoms with which she previously suffered, but the character of the urine is not materially altered. In this case one of the kidneys was enlarged and, therefore, Dr. Primrose's view that it is the relief of tension which is brought about may probably apply. I think it is in acute cases where the kidney is strangled and certain other cases where there are attacks of temporary swelling that splitting or decapsulation will be of benefit. I quite agree with Dr. Primrose about the free use of calomel in Bright's disease; a few years ago one member of the hospital staff administered calomel to all his patients suffering from Bright's disease, and as a result most of them developed severe mercurial stomatitis.

Dr. McCrae: The only kind of case that surgeons are at one upon is the acute nephritis; the second class of cases, upon which they are almost agreed, is chronic nephritis in which there is high tension; these two have one thing in common, the ability to produce high tension. If a kidney can produce increased tension, it implies that that kidney has at its disposal more than half of its tubular epithelium still in a state of normal or nearly normal, which again brings the prognosis to the question of how much normal or nearly normal kidney one has to deal with; and success is obtained in those cases which are comparatively little damaged.

Dr. Martin: A point which would interest one is to know whether one form of nephritis has been more benefited than another by the operative treatment. One is surprised to see one of the best American clinicians advocating that chronic parenchymatous nephritis is the only one benefited by operation, while another experienced surgeon says that improvement is only found in the chronic interstitial cases, and only so long as the capsule is not reformed around the kidney. That one should expect to get a cure in cases of nephritis of any kind seems

to me, from a pathological point of view, practically impossible; but that one may obtain very definite benefit Dr. Primrose has shown to be a very reasonable hope. Cases of hæmaturia are often cured by the mere operation of cutting down upon the kidney, not even cutting into it, a fact which is quite a common experience with almost every surgeon, though whether such instances are of the nature of organic disease or mere angio-neurotic hæmaturia has not been settled.

Dr. Perrigo: One point, upon which I take issue, is that of convulsions during pregnancy, I should be disposed to leave the kidney alone and empty the uterus, probably dealing with the kidney afterwards.

Dr. Mills: I have been much interested in Dr. Primrose's well knit scientific paper. With regard to the question of the dog, I may say that for some time I was not aware that dogs could have chronic kidney disease, but I had sent to me by a former student a very well marked case as far as the kidneys were concerned, and the only cause I could learn for the disease was excessive feeding of meat. As to how frequent these cases are I am unable to say. I suppose it was very natural that tension should be considered a very important factor to be relieved in kidney disease, and from what has been said, I cannot doubt that this is true. I think more at a former period than recently did we associate function and the blood pressure *per se*; but the tendency now is, I think, to explain secretion in the kidney more on vital than mechanical principles, and to lay greater stress upon the quantity of blood going through the organ than on the blood pressure; but that here, as elsewhere, blood pressure is an important factor in a good circulation. So that while it is still, of course, quite true that blood pressure and tension generally are closely related to nutrition, still it would seem to me to be rather too narrow a view to explain all possible results, good or evil, from this operation. The capsules which surround organs are elastic and they are protective, and I have no doubt that dilatation would take place and other injury to various organs if it were not for these capsules. They are a part of the environment, so to speak, and if you interfere with this you not only alter tension but expose a part not usually exposed. There is, therefore, a new series of stimuli given—protoplasm exposed to an entirely different environment, and it is known that merely cutting down on organs is followed sometimes by marked changes. It is said that even exposing a portion of the brain sometimes leads to the same results as actual interference with the part. I have never put this actually to the test; but, as as it has usually been said that there is no explanation for the changes referred to, and this explanation of altered environment, vague though it be, is better than none at all.

When nature endeavours to replace what is normal to the organs as regenerative power is relatively weak in the higher animals, the results may be unsatisfactory. By altering the environment you get a benefit not only to the cells direct, but also from reflex influence; and it seems to me this last must not be left out in the explanation. So that if there be not a cause which is operating too strongly to counteract the effects of the possible good result from the change in the environment, it is likely there will be benefit; but, on the other hand there may be factors which lie far beyond, and no doubt are beyond the kidneys, and these will continue to operate on these organs under these new conditions, so that one would naturally expect a very great variety of results in such cases. Experiments on dogs in the laboratory cannot be more than suggestive, and the problem is one to be solved by experience. Surely the present is a bold movement, one worthy of some trial at least and a fair consideration, and I, for one, am very pleased to hear a subject like this discussed in such a cautious, scientific and thorough spirit.

Dr. Shepherd: After congratulating Dr. Primrose on his excellent paper and expressing his appreciation, Dr. Shepherd said: "I do not think the case is yet proven, and the author himself also considers the question *en délibéré*. My experience extends to but one case and it was unilateral. The patient was referred to me by Dr. Lafleur and had been passing for some months a great deal of bloody urine with casts and albumin; stone was suspected, and Dr. Lockhart, having examined the bladder saw the blood coming from the right ureter and this proved, of course, that the right kidney was the one affected. I therefore exposed the right kidney, but failed to find any stone or anything abnormal, though there was some scarring on the surface. The capsule was incised and partially separated and the wound closed From the day following the operation no more blood appeared, the albumin steadily diminished and casts were only occasionally seen. A year after the operation the patient was reported as being perfectly well, distinct benefit thus accruing from the operation. A great many surgeons advocate nephrotomy instead of decapsulation in these cases and often with good results. Dr. A. Ferguson, of Chicago, reports a great many cases of decapsulation performed with benefit to the patient, and he claims to have done this operation before Edebohls. Yet others have said that there were no good results following operation. Dr. Emil Reis reported a case of decapsulation followed by temporary improvement; later he had to remove the kidney for excessive hæmorrhage. There was a newly formed capsule around the kidney as thick as one's finger, and firmly attached all round; sections showed that the

capsule had no anastomosis with the kidney. The consensus of opinion is now that the beneficial result is due almost entirely to the lessening of tension. In a general disease like chronic Bright's, however, it is conceivable that only a temporary benefit could follow such a procedure. Dr. Primrose's paper, however, is of great help in throwing light upon this most difficult subject, which still requires further investigation.

Dr. Primrose: I must thank you for the kindly way in which you have received this paper. Enough has been said to show that we are pretty much all at one upon the subject. What Dr. McCrae has said is perfectly true, and regarding acute nephritis, I also agree with Dr. Martin; my view has always been that in acute parenchymatous nephritis operation is found to be of more advantage than in the interstitial form. Dr. Mills has stated very clearly the results of the environment and reflex action. With regard to Dr. Garrow's remarks on Morris's early cases, I think all he did was to give relief. The re-formation of the capsule undoubtedly occurs. I am pleased that Dr. Finley has also noticed the disadvantage of administering calomel in these cases. We can now show that a profound effect may be produced, but we do not understand the final result upon the kidney and its nephritis; that temporary relief is afforded, I think, is proved beyond all doubt, and that alone seems to me to justify operation. This being the case we must still further investigate before we can pronounce a definite opinion.

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ANIMAL TUBERCULOSES

AND THEIR RELATION TO HUMAN HEALTH.

BY

MAZYCK P. RAVENEL, M.D.,

Bacteriologist of the State Live Stock Sanitary Board of Pennsylvania, Assistant Medical Director of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis.

There is no disease known which is so widespread as tuberculosis, and none which affects so many species of animals or has greater economic importance. In consequence of this, it has been well termed the "universal panzootic." Although this fact is known to many of you in general terms, I imagine it will surprise some of you to read a list of the animals in which the disease has been observed. It is found in cattle, sheep, horses, goats, monkeys, dogs, cats, birds, dromedary, camel, giraffe, zebra, alpaca, axis deer, Virginia deer, lion, tiger, panther, jaguar, jackall, leopard, polar fox, coati, paradoxure, bear, tapir, llama, antelope, fish, snakes and turtle.

Many of these animals just mentioned are not affected in the natural state, but the disease has been observed in them in zoological gardens. It is the cause of tremendous losses to all such institutions. In certain gardens it is necessary to restock the monkey house every two years. In other words the average life of the monkeys is only two years. You can realize the expense incurred from this item alone. The majority of the animals mentioned have no distinct bearing from a public health standpoint, but are of great use to us in studying the character of the disease and the relationship that exists between the disease as it occurs in different species of animals. From these studies we are enabled to deduce conclusions in regard to mankind. The principle species in which we are concerned of course is the bovine, which is practically

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the only one in our country used for food, and the question resolves itself into a discussion as to whether bovine tuberculosis is transmissible to mankind through the meat and milk of tuberculous animals.

Lænnec, in 1814, first taught the unity of tuberculosis. He was opposed by Virchow whose authority carried practically every one with him. In 1865, Villemin first showed that the disease could be transmitted from one animal to another by inoculation and reached the necessary conclusion that wherever seen it had the same origin and the same cause. In spite of this, opposition to his views was kept up until the announcement by Koch of the discovery of tubercle bacillus in 1882. Koch showed that for all animals examined there was only one cause for the disease, namely, the tubercle bacillus. Following this the profession and the public in general was practically in unison in the belief that bovine tuberculosis was dangerous to human health. In 1896, Dr. Theobald Smith showed that there were certain differences between the tubercle bacilli found in man and those found in cattle. He did not, however, draw sweeping conclusions from this and still taught the close relationship of the two. In 1901, Koch having repeated these experiments, announced at the London Congress of Tuberculosis conclusions which were contrary to all opinions held up to that time, and he aroused a storm of opposition. He held that the disease as seen in animals was entirely different from that of mankind, and that it is impossible to transmit the human disease to cattle. On the other hand, he held that if human beings were ever infected from cattle it was a very rare occurrence, so rare indeed that it could practically be left out of consideration in formulating methods for the prevention and eradication of the disease.

Study of Tubercle Bacilli. Study of cultures of the tubercle bacillus isolated from various types of tuberculosis in man and in animals has not yet shown differences which enable us readily to determine the origin of a given culture. The most marked and constant difference is the greater pathogenic power shown by the bovine bacillus for all experimental animals which have been used, with the possible exception of swine, which in my experience have proved so very susceptible to both races that it is hard to draw a distinction between them. Koch, however, includes swine among the animals which show a much greater susceptibility to bovine cultures than to those from human sources. The list of animals for which this greater susceptibility has been shown is a long one, including horses, cows, asses, goats, sheep, dogs, cats, rabbits, guinea pigs, and our nearest relative, the monkey. The result is the same by every method of inoculation tried. It would then be a most remarkable and anomalous circumstance for

man, who is one of the most susceptible of all animals, to be immune, or even strongly resistant, to the most virulent race of tubercle bacillus yet discovered. It has most certainly not been shown that man possesses this immunity, and no one has been able to discover any special means of defense in the human body against the bovine tubercle bacillus. Until this is done we are bound to believe that, in common with all other mammalia, he shares this susceptibility to its ravages.

Action of Tuberculin. Further proof of the identity of the tubercle bacilli found in different species of animals is given in the fact that tuberculins made from these different cultures have the same effect on animals.

Immunization. Within the last two years very conclusive proof of the identity of bovine and human tubercle bacilli has been given in the work of von Behring, Pearson and Gilliland, Thomassen, Nocard, Neufeld and others. It has been shown by these workers that it is possible to render cattle immune to bovine tuberculosis by injections of small doses of the human bacillus. All of our studies go to show that the production of immunity is specific in its character, that is to say, it is possible to immunize an animal against a certain disease only by a vaccine which is related closely to that disease. Hence it follows that it would be impossible to immunize cattle against bovine tuberculosis by inoculation with the human bacillus unless these two organisms were essentially the same.

Variation of Virulence. While it has been shown conclusively that a greater pathogenic power is the most marked distinguishing characteristic between the bovine and the human bacillus even this is not constant. You will recall, however, that Koch, in 1901, held that this difference in virulence gave us a sure method of diagnosis between the two races. If the culture had power to cause general infection in cattle it was then certainly of bovine origin, while failure to do this proved it to be human. Replying to this Prof. McFadyean said: "If a low degree of virulence for cattle is to be taken as the distinguishing feature of human bacilli there will be no difficulty in proving that the disease is sometimes transmitted to the lower animals."

Confirmation of this has recently come from the Tuberculosis Commission appointed by the Imperial Sanitary Office of Germany. Kossel, in his preliminary report says that among seven cultures examined by them, four of which were isolated from cattle and three from swine, one was found which caused only infiltration at the point of inoculation, with some caseous foci in the related prescapular gland, and in one mediastinal, but without the generalization usually seen following in-

oculations of bovine bacilli. He concludes, that "among bovine tubercle bacilli there can also occur differences with regard to virulence." Koch and his followers are very active in making discoveries which have been known elsewhere for a long time.

Transmission from Man to Animals. In spite of Koch's denial of all possibility of infecting animals with human tuberculous material, this has been done by numerous workers. The first of these was Chauveau, who, in 1868, succeeded in infecting young cattle by ingestion by intravenous inoculation, and by subcutaneous inoculation. Tuberculin had not at that time been discovered, but Chauveau foresaw the objection that might be raised, namely, that his experimental animals were infected with tuberculosis at the time the experiment began, and to avoid this selected them from the Jura mountains, where tuberculosis was unknown. Bollinger, in 1879, was the next to succeed in infecting cattle with the human bacillus. Other successful experimenters, Crookshank, Kitt, Sidney Martin, Thomassen, Nocard, DeJong, Arloing, Westenhoffer, Max Wolff, Schottelius, Febiger and Jensen, Hamilton and Young, and at the laboratory of the State Live Stock Sanitary Board of Pennsylvania we have succeeded a number of times in the same thing. I will only mention one of these experiments, that of Hamilton and Young, which has been recently published. In their work 19 calves were inoculated by different methods with human material, and of these 15 developed tuberculosis, while four resisted. The diagnoses in the cases of these animals was made by macroscopic as well as microscopic examination, and also by re-inoculation of guinea pigs from the tissues.

Pathogenic Action of the Bovine Tubercle Bacillus for Man. Accidental inoculations in the laboratory and in post-mortem work on cattle have given us some opportunity of observing the effects of the bovine tubercle bacillus on man. I have reported four such cases, all of which resulted in the formation of typical lesions which required excision before healing took place. In two of these cases the bacillus was isolated and studied, excluding the possibility of infection from human sources. In one instance the recovered organism was compared with the original culture. A number of similar cases are on record, among which are those reported by Krause, Spronk and Hofnagle, Lassar, Tscherning, Pfeiffer, Hartzell, Kurt Muller, DeJong, Joseph and Trautman, and Troje. A common feature of all of them is their resistance to treatment, final cure resulting only after radical excision. In the case recently reported by Troje, which seems to be free from the objections usually raised, infection extended up the arm, and two years after the

original injury had involved the glands of the axilla and sub-clavicular space. In a few instances general infection and death is reported to have followed these accidental inoculations, but the evidence is not entirely conclusive. A careful study of these wound infections, and comparison with similar infections with human tuberculous material, shows that the bovine bacillus grows well in the human body under the most unfavorable circumstances producing typical lesions, and that it shows for man at least as great pathogenic power as the human bacillus under identical circumstances. As the skin is known to be the most unfavourable tissue for the tubercle bacillus, we are justified in holding that organs and tissues which are known to be favourable soil for the growth of the human bacillus will prove equally favourable for the bovine organism.

Clinical Observation. Clinical studies have not given us a great deal of aid in the solution of the question before us. We have, however, some 38 cases on record in which the evidence is very strong and convincing, such as those recorded by Stang, Demme, Gosse, Ollivier, Law, Ebers, Bang, Klebs and Rievel, and von Ruck. All of them are open to the same criticism, as it is plain that all other sources of infection have not been excluded with certainty. This objection will always apply to clinical observation to a greater or less extent, but I do not consider that it is fair to exclude them on this account. With respect to other diseases such as typhoid fever, diphtheria and scarlet fever, we constantly accept without question evidence which is not nearly so strong as that which we are asked to reject when tuberculosis is concerned. Much of the evidence on which the general belief in the respiratory invasion of tuberculosis rests is lamentably weak. If we question the accuracy of these cases in which death has followed accidental inoculation, or those other cases where milk from tuberculous cows appears to have been the cause of the disease, for the reason that all other sources of infection have not been excluded, we should apply the same strict methods of examination to those cases in which infection appears to have taken place through the respiratory tract and by exposure to the human disease. This has not generally been done. In our clinics and hospitals it is the rule to question the patient as to his or her family history, and if the answers show exposure to another case of phthisis the source of infection is considered as demonstrated. No effort is made to exclude the use of tuberculous meat and milk, even if it were possible to get reliable data concerning these facts. In this way has the great mass of our statistics concerning infection in tuberculosis been collected. The belief generally held that dried and

pulverised sputum is the general infecting material is largely theory. It is supported by very little experimental evidence, and no exact clinical evidence that I am aware of. Do not understand me to say that I disbelieve these teachings, for I do not; but I protest that Koch and those who follow him in disregarding the importance of bovine tuberculosis in relation to the human disease set up a standard of accuracy for their scientific opponents which they themselves do not honour.

Primary Intestinal Tuberculosis. Those who doubt that tuberculous food products play any considerable part in the causation of human tuberculosis base their opinion mainly on the alleged rarity of primary intestinal tuberculosis. Koch says, "that a case of tuberculosis has been caused by aliments can be assumed with certainty only when the intestine suffers first, that is, when a so-called primary tuberculosis of the intestine is found." It requires but little thought to see how misleading this statement is. It leaves out of consideration infection through the tonsils and upper digestive tract, and recent experimental work proves that no such dogmatic statement can be made.

Passage of Tubercle Bacillus through Healthy Intestine. As long ago as 1890, Dobrokionski, working under Cornil, showed that the tubercle bacillus can penetrate the wall of the intestine of some animals without causing any demonstrable lesion, and that it does not require long to do so.

The late Prof. Nocard observed that if he drew blood from horses at certain periods of digestion, the serum would become contaminated even if divided into small lots of 100 c.c. On the other hand if the bleeding was done during fasting, the serum would be preserved in litre flasks without loss. In seeking an explanation of this phenomenon, two of his students, Desoubry and Porcher, found that the chyle of dogs fed with soup containing considerable fat showed many colonies of bacteria when plated. When a plain bouillon without grease was given, the chyle was free from bacteria. Nicolas and Descos have shown that practically the same thing holds true for the tubercle bacillus when ingested with fat. During the winter of 1902-1903, I made similar experiments at the laboratory of the State Live Stock Sanitary Board of Pennsylvania. The method was as follows:—After keeping a dog under observation for some days to make sure that it was healthy, a purge of castor oil was given in order to rid the intestine of any substance which might injure the mucous membrane mechanically. At the end of this time a single meal consisting of equal parts of warm water and melted butter made into an emulsion, into which

tubercle bacilli were stirred, was given. The dog was killed after 3½ to 4 hours, during active digestion, and as much chyle as possible collected, together with the mesenteric glands. With this material guinea pigs were inoculated. In eight out of ten dogs it was found that tubercle baccilli had passed through the intestinal wall, and from the extent of the lesions found in the guinea pigs I feel justified in saying that the bacilli had penetrated in large numbers. In every case the entire intestinal tract of the dogs was carefully examined, and in two, microscopic sections were made from several portions of the gut. In no case was any lesion found. These experiments prove that tubercle bacilli can easily penetrate healthy mucous membrane without leaving any trace of their path.

When we remember how directly the chyle passes up the thoracic duct and is thrown into the venous circulation near the heart, from which it passes immediately to the lungs, it does not seem unreasonable to claim that an infection through the intestine may first show itself in the lung, or at least that the lesion in the lung will be so nearly contemporaneous with that of the intestine that it will be impossible to say which is primary.

I show here photographs of the intestines and lungs of two monkeys which were infected by feeding with pure cultures of tubercle bacillus in a series of experiments on the comparative virulence of the human and bovine organisms. In both the lungs are extensively diseased. We were unable to find any lesion whatever in the intestine of one and in the other (A 45007) there was only a slight lesion with caseation of three glands in relation to the upper portion of the tract. In this animal there was, however, enlargement and caseation of the cervical lymph glands, pointing to invasion through the tonsils or pharynx.

If these two specimens were shown without their history most pathologists would pronounce them cases of respiratory infection, yet they were kept under conditions which precluded this possibility, and were tested with tuberculin before the experiment began. May not these experiments explain many of those numerous cases seen in children in which pathologists are unable to decide the mode of invasion? In the series of autopsies reported by Northrup, in 34 out of 135 cases he could not determine the portal of entry.

Infection through the Tonsils. The numerous observations made of late years leave no doubt that the tonsils sometimes act as the port of entry for the tubercle bacillus. As it is well put by Baup, "discussion is only possible as to the greater or less frequency of these lesions, and their pathological importance," a position sustained not only by

the work of other observers but by his own, in which he examined the tonsils from those cases only in which tuberculosis of the lungs was absent and other ports of entry could be excluded. Dieulafoy, by the inoculation of guinea pigs, found tuberculosis in fifteen of ninety-six cases. Latham, who was careful to employ only the interior portions of the tonsils, in forty-five consecutive cases of children from three months to thirteen years of age, seen at autopsy, found seven which were tuberculous. One of the most recent studies of this subject is that of Friedmann, who examined the tonsils obtained from ninety-one children at autopsy and fifty-four cases removed by operation, all but one of the latter under five years of age. Of the ninety-one cases, in three there was tuberculosis, probably not primary; in five there was tuberculosis, probably primary, with secondary involvement of lymphatic glands, intestine, and bone; in one, the tonsils showed many tubercles, giant cells, and tubercle bacilli, the rest of the body being free; in seven (two with and five without tuberculosis) no bacilli could be demonstrated; in three, giant cells attributed to other causes were found; in eleven, which showed extensive tuberculosis of other parts of the body, the tonsils were free, but showed scars; in four the tonsils were free, there being tuberculosis of the internal organs; in three, bacilli were demonstrated in smear proportions, though no tubercles were found. In the remaining fifty-four cases tuberculosis was not found in any part of the body. Only one of the operative cases showed primary tuberculosis.

Postmortem Statistics. Postmortem statistics are of great value to us in showing the possibility of infection by tuberculous material used as food. In England only there is great uniformity in the results. Guthrie, at the Children's Hospital, Paddington, says that 24.6 per cent. of the cases examined by him showed the primary lesions in the intestine; Still at the Great Ormond Street Hospital for Children found 23.4 per cent. of primary intestinal tuberculosis, while Shennan at the Royal Hospital in Edinburgh found 26.1 per cent. Koch has told us that intestinal infection is very rare in Germany. Against his opinion Hueppe estimates that in children the primary lesion is in the intestine in from 25 to 30 per cent of all cases. Exhaustive statistics have been recently published by Hof of Kiel, who has collected the data of 15,000 autopsies done in that city. There were found 936 cases of tuberculosis in children. Among these 235 or 25.1 per cent. showed the primary lesion in the intestine, and 527 or 56.2 per cent. showed the primary lesion in the respiratory tract. This corresponds very closely with the figures given by almost all English observers. More surprising even is

the fact that of 2,697 cases of tuberculosis in adults 159 or 5.9 per cent. showed the primary lesion in the intestine. While statistics on this point are not uniform in the different countries of the world, or even in all parts of any given country, they show conclusively that tuberculous food plays a considerable role in the spread of tuberculosis in children, and possibly also in adults, although children are by far the most vulnerable to infection through this source.

Isolation of Bovine Tubercle Bacilli from Human Lesions. The most direct and positive proof that bovine tuberculosis is responsible for a certain amount of tuberculosis in man is given by the finding of the bovine bacillus in human lesions. With this object in view I began, in 1900, to look for cases of intestinal tuberculosis in children as those most likely to be caused by the bovine bacillus. In June, 1901, I succeeded in isolating from the mesenteric glands of a child sent to me by Dr. Alfred Hand, from the Children's Hospital in Philadelphia, a culture which has been designated BB. This culture showed a most intense virulence for cattle, killing two calves in 17 and 27 days respectively, and a six year old cow in 17 days. Excepting in the first generation, when some irregularity of staining was noticed, this culture has always shown every characteristic of the bovine tubercle bacillus, and must be regarded as having come directly from cattle. I have since isolated two other cultures from mesenteric glands of children which have unusual virulence. Culture U was considered an ordinary human culture until it was used in some feeding experiments on dogs, when it showed such unexpected virulence that I inoculated a calf with it. The animal was killed after 46 days, as it was moribund. The autopsy showed a general infection.

Recently I have obtained another culture which lies between BB and U, which I consider bovine. It produces general infection and death in rabbits on subcutaneous inoculation and killed a calf weighing 255 pounds in 35 days. The late Dr. De Schweinitz isolated the bovine tubercle bacillus twice from intestinal lesions in children, and Dr. Theobald Smith has found it once in such cases. In Europe, Febiger and Jensen report having found it three times, and Kossel speaking for the German Tuberculosis Commission, tells us that out of 16 children examined, four proved to have been infected by the bovine tubercle bacillus. Two of these four cases are described as "milary tuberculosis," one starting from a bronchial adenopathy, and the other from a mesenteric adenopathy. The remaining two were intestinal tuberculosis. It appears from this that even those cases which show the primary lesion in the bronchial glands and are considered to be so cer-

tainly of respiratory origin, may be caused by the bovine tubercle bacillus.

When a Commission which is evidently doing its best to sustain Koch has to acknowledge that 25 per cent. of the children examined by it show lesions due to the bovine tubercle bacillus it seems time to abandon the doctrine that tuberculosis of cattle has little or no effect on human health.

It appears to me that the case might well rest on the positive evidence afforded already by the discovery of the bovine germ in children.

Frequency of Bovine Infection. I will not attempt to say what proportion of children die of bovine infection. If I have sustained my contention that the two diseases are essentially the same and intercommunicable, it is evident that the number of children in any given locality who become infected from bovine sources will vary directly with the prevalence of tuberculosis in the cattle of that district and with the extent to which unsterilized milk is used as food.

In order to determine the percentage of children who derive their infection from cattle it would be necessary to isolate from a large number of those who died from tuberculosis the offending organism, and to determine its origin. The cost of this is prohibitive for private laboratories, and it must be undertaken at the public expense if done at all. The findings already published are too few in number to form the basis of an estimate, but they show conclusively that it is not a rare occurrence to find the bovine tubercle bacillus in the lesions of children. The German Commission found it in four out of sixteen cases examined; De Schweinitz twice in four cases; Theobald Smith once in five cases and at the laboratory of the State Live Stock Sanitary Board of Pennsylvania, I have found it in two out of five cases. Febiger and Jensen have found it in three instances.

Extent of Tuberculosis in Cattle. I will not weary you with an array of statistics showing the prevalence of bovine tuberculosis. It is well known to be a scourge, and to be especially prevalent in milch cows of the herds on the dairy farms near large cities,—at least this has been the case in the past, to a great extent. The introduction of certified milk has had a wide-spread educational effect, and has done much to better the condition of many herds, directly as well as indirectly.

I hold strongly to the opinion that it is not only the cow with tuberculosis of the udder that is dangerous, though this is no doubt an especially perilous condition. Dilution with the milk of healthy cows un-

doubtedly lessens the infectiousness of such milk but cannot make it safe. Dr. Theobald Smith showed, in 1893, that the tubercle bacillus could be found in the milk of tuberculous cows, when the udder was free from disease, so far as the naked eye could tell. In a series of experiments with the mixed milk of five cows which reacted to tuberculin, but were in good physical condition, I found it infectious for 15.8 per cent. of the guinea pigs inoculated. No attempt was made to concentrate the bacilli; on the contrary, the whole quantity of the milk was well shaken in order to imitate natural conditions. No lesion of the udders could be found during life or after death of the cows.

Rabinowitsch and Kempner found that ten out of fifteen cows, which reacted to tuberculin but showed no evidence of udder disease, gave milk containing tubercle bacilli. They conclude that "milk may contain tubercle bacilli; first, in beginning tuberculosis, without discoverable disease of the udder; and, second, in latent tuberculosis that can be detected only by the tuberculin reaction;" also, "milk from cows that react to tuberculin must be suspected of being infectious in every case."

Conclusion. At the present time the weight of the available evidence is in favour of the view that the chief source of infection in children, as well as in adults, is the human tubercle bacillus, and that the portal of entry is the respiratory tract. It has, however, been proven conclusively that the bovine tubercle bacillus is responsible for a certain proportion of the deaths from tuberculosis in children, and there is strong evidence at hand to show that the number of children infected from bovine sources is quite large. Whether the number be large or small, it is none the less our duty to guard against the use of milk from tuberculous cattle for food.

It is without question most important to build sanatoria for the treatment and cure of early cases of tuberculosis; to form societies which spread information concerning the disease and its prevention to the sick and well alike; to build hospitals for hopeless and dying cases, in order to remove them from their homes at the period of greatest danger to those around them; to pass laws against promiscuous spitting; to regulate ventilation and over-crowding of tenements and factories; to encourage good living amongst the masses in every way possible. All of these things are useful and necessary, but we will still fail in doing our whole duty, if we neglect to guard against food products from tuberculous animals and to make every effort for the eradication of tuberculosis from cattle.

TUMOURS OF THE RIGHT ILIAC FOSSA.

BY

L. Coyteux Prévost, M.D.,

Gynæcologist to St. Luke's Hospital,

Ottawa.

The abdominal cavity, to my mind, is a deceitful surprise-box, and an interesting novel could be written dealing with the analysis of the varied emotions which this region of the human body causes every day to the surgeon. One thinks he has to deal with an ovarian cyst and comes upon tubercular peritonitis; we look for what we thought to be a biliary calculus and we find tumour of the pylorus; an abdominal section is made to remove a fibroid of the uterus and we are suddenly face to face with a fœtus which stretches out its hand; we expected to find appendicitis, it is pyosalpynx or ectopic gestation.

And this interesting abdomen is not content with humiliating us in a general way; through the most refined cruelty it keeps set apart a small corner of predilection where the most Bonapartist clinician is bound sooner or later to find his Waterloo.

That little corner is the ileo-cecal region, contained in a triangular space whose extreme boundaries are, internally from the umbilicus to the symphisis and externally, Poupart's ligament and the anterior superior spine of the ileum.

We are consulted by a patient bearing a lump in the right iliac fossa; the lump may be hard or soft; at times accompanied with temperature, at other times entirely apyretic. In certain cases, it is a painful tumefaction, in other cases, the tumour is indolent. What is the origin, what is the nature of that lump? I know perfectly well that there are cases where the diagnosis is extremely difficult if not impossible, notwithstanding all the means brought into use to arrive at it, but still we must confess that frequently errors are committed owing to the carelessness exhibited by the physician in the research and the analysis of the symptoms.

In order to recognize the nature of a disease, it is not indeed sufficient to lend a more or less attentive ear to the very often inaccurate relation which the patient makes of his sufferings; it is absolutely necessary to control his tale of woe by a well directed interrogatory and a methodical interpretation of the facts which he brings to our knowledge. The objective examination should be carried out in a systematic manner and we must never hasten to jump too soon at a conclusion, always bearing in mind that exceptions to general rules are numerous. Symptoms apparently similar may belong to very different

Read before the Ottawa Medico-Chirurgical Society

affections, but their characters are never entirely identical and it is of the greatest importance that we should endeavour to discriminate the various shades of their signification. An epigastric pain does not always mean cancer of the stomach; constipation and vomiting are not in every case the signs of intestinal obstruction; and again, a patient coming to us with fever and a painful lump in the right iliac region may suffer from anything else than appendicitis or cancer of the intestine.

Very frequently it is only by the considerate attention paid to the complaints of the patient, the careful examination of the objective signs, the analysis of each symptom in particular and the study of the group to which they belong, and lastly, by the exclusion of other pathological conditions that we shall be enabled to protect ourselves against those errors, always prejudicial to the patient and oftentimes disastrous for the surgeon's reputation.

Omnis homo mendax et errare humanum est. This axiom should remain engraved in every one's memory to impose upon us the obligation to curb our pride, reminding us that there is a thing or two which we have yet to learn with regard to the diagnosis of diseases. But, the difficulties of the matter must not take away from our mind all hopes of arriving at the truth, provided we surround ourselves with necessary precautions, and, if physicians, in every instance, would use the circumspection dictated by their duty, errors indeed would be far less frequent, and, at any rate, we would certainly never hear, as recently came to my knowledge, of a senile gangrene of the foot being taken for an attack of gout.

However, in spite of all, there are unfortunately cases, in which we are bound to be led astray, and it is with this thought that I undertook the writing of this paper, which will demonstrate the difficulty at times in determining the nature of tumours situated in the right iliac fossa.

It seems that all the affections which constitute abdominal pathology have chosen as rendez-vous this privileged region of the human body. Let us, for instance, exclude inflammations of the appendix with all varieties and their complications, and also, in women, the diseases of the appendages, such as hydrosalpynx, pyosalpynx, ovarian tumours, ectopic gestation, that is, the affections of the organs which are really at home there and betray their sufferings by manifestations in the region we speak of. We might now be tempted to believe, I fancy, that there remains but very few diseases liable to produce a tumour in the right iliac fossa. Well, I will only cite some of them; stop me.

if you find the enumeration too long; psoas iliac abscess; abscess arising from the vertebral joint; abscess from the ilio-sacral joint; chronic interstitial myositis; prececal suppurating adenitis; retro-peritoneal, retro-colic suppurating adenitis; gangrenous or tubercular omentum; cancer of cœcum; cyst of the mesentery; enterolith of the cœcum; hypertrophic tuberculoma of the intestine; hypertrophic ileo-typhlitis due or not due to stenosis of the gut; ileo-colic intussusception; foreign body of the ileum; perityphlitic abscess with integrity of the appendix; tubercular peritonitis; cancerous peritonitis; cholelithiasis; ureteral calculus; perinephritic abscess; floating kidney; certain varieties of hernia; osteo-sarcoma of the iliac bone.

These facts, you know as well as I do, and I merely wish to recall them to your memory. Nor have I the intention of dwelling upon the symptoms proper to these varied pathological conditions which the teachings of text-books as well as your personal experience have rendered more or less familiar to you. I only wish to relate a certain number of observations, where the differential diagnosis offered particular difficulties, especially between appendicitis, cancer of the cœcum and other abdominal affections.

For the last few years, the medico-chirurgical atmosphere seems loaded with appendicitis, and a tumefaction no sooner appears in the region which is about to immortalize the name of McBurney, than the diagnosis of appendicitis is immediately proclaimed. The number of those who have been mistaken in this respect is incalculable, and if you open the Annals of Surgery of June, 1902, you shall find an interesting article written by Spellissy, in which this author has gathered 194 cases of affections situated in the right iliac fossa with lesions of twenty varieties of structure and 68 species of lesions, not one of the numbered cases of appendiceal origin, and all so mistaken.

If in certain cases, the error can be avoided, it is unquestionable that sometimes, special circumstances contribute to render the diagnosis extremely difficult.

I was one day called in consultation to see an unmarried lady aged 41. To this extended virginity, she could boast of being able to add that of no therapeutic treatment whatever: she had never been ill in her life. Tall, robust, admirably built, the utero-ovarian functions had always been absolutely normal. She never had any menstrual suppression; no metrorrhagia; no dysmenorrhœa; no leucorrhœa.

A few days previous to my visit, after an afternoon of shopping, she experienced quite a severe pain in the right iliac fossa, went to bed and suffered all night. The next day, the family physician was called

in and prescribed hot fomentations. In the evening, the temperature went up; pains, always severe, were paroxysmal. During the night, vomiting appeared and continued all next day. For five or six days, the symptoms remained the same; spontaneous pain was quite severe, the right side of the abdomen was tender on pressure, and the temperature reaching 102 in the evening. Eight or ten days after the onset of the disease, the physician noticed in the right iliac region, the presence of a semi-fluctuation tumour and, being naturally convinced that an abscess had developed about the appendix, the patient was brought to Ottawa for operation.

Examination:—At the outer extremity of a line drawn from the antero-superior spine to the umbilicus, a large bulging was seen, three or four inches in all its diameters; fluctuation was evident.

Although the characters of this abscess appeared to me somewhat unusual, owing to its dimensions and the rather high situation compared with that of purulent collections due to appendicitis, I lent little importance to these irregularities and I decided to operate.

Incision at the base of the tumour was made; the skin, muscles, fascia and finally the peritoneum were carefully divided. The dark brown wall of the collection appeared, the knife was plunged into it. Not a drop of pus followed, but a stream of limpid serous fluid squirted out: 18 ounces were withdrawn. It was a cyst. I immediately seized its wall with a clamp and proceeded to separate the adhesions, soft, recent, which united it to the peritoneum. I then looked for the pedicle, but the latter seemed to be so low down that I decided to make another incision in the median line, in order to be in a better position to see what I was doing. The abdomen rapidly opened, I made a new exploration. To my great surprise, I fell upon a multitude of fibroids with which the uterus was literally studded. The cyst proved to belong to the right ovary and was adherent to the intestines, the pelvic floor and the abdominal wall. The whole thing was removed: uterus and appendages, and this operation, begun for the mere opening of an abscess, terminated in an abdominal hysterectomy.

And the appendix? It is true, I forgot that. Well, it was entirely normal, not even a trace of the least emotion. I considered the risks which had just threatened its existence as a well deserved appeal to my clemency and I left it in the abdomen.

I humbly confess that, in this case, a thorough examination might have permitted me to avoid a mistake. A vaginal examination would surely have allowed me to detect the presence of the uterine tumours. However, without trying to minimize the extent of my error, I beg to

claim the benefit of extenuating circumstances. I always hesitate to examine the vagina of virgins. Besides, nothing in this case had caused me to suspect the existence of a neoplasm in a woman who never had any metrorrhagia, never had any pain previous to the present illness, never noticed any abdominal development, the length of the pedicle allowing the largest of the uterine tumours to treacherously conceal its presence under the promontory.

And again, why this elevation of temperature? I know perfectly well now that it was most likely due to partial peritonitis as shown by the adhesions found between the cyst and the peritoneum, but, adding this fever to the tumefaction in the iliac fossa as well as to the other symptoms, could I think of anything else than peri-appendiceal purulent collection?

Finally, that cyst, instead of remaining at home and simply satisfied with raising the abdominal wall, as ordinarily do honest tumours of that kind, through what whimsical fancy did it deem proper to cunningly crawl along the rectus, hiding its dulness under the distended intestinal coils? Merely to lead me astray and inflict on my pride the most cruel humiliation.

In short: towards the utero-ovarian organs, negative symptoms. Positive and classical symptoms towards the appendix, accompanied with a tumour in the iliac fossa; inevitable result: phenomenal error of diagnosis.

During the month of July, I was called outside of the city to see in consultation a small sized woman, aged 27. She had been married two years and had a living child twelve months old. She had always been in good health with the exception of a coxalgia which occurred during her infancy and left her with the right inferior limb shorter, the foot in adduction.

She was three months pregnant and, three days before, she had had diarrhœa during a whole night. Feeling better the next day, she ate at dinner a gigantic cucumber. Two or three hours after, she was taken with excruciating pains in the right side of the abdomen. She rejected a part of her meal, less the cucumber which persisted in remaining inside.

The pain and vomiting continued until the evening, when a physician called, administered hypodermic injections of morphine. The pains were not relieved, the patient took to bed and had been suffering ever since. Incessant nausea and frequent vomiting prevailed. An obstinate constipation supervened and yielded only to reiterated purgatives.

I asked the family physician to give me his opinion concerning the

case. "I thought at first," said he, "of indigestion, but, yesterday, I noticed quite a tumefaction in the right iliac region and I concluded that it must be a perityphlitis."

Outside of large centres, the fashionable appendicitis is still comparatively unknown; the people have remained faithful to the *inflammation of the bowels* of yore, which the rural physician, more learned, willingly calls typhlitis, peri-typhlitis and really, can we say that they are always wrong?

At any rate, the assertion of my confrere brought in a new support to the conviction already fixed in my mind. In fact, perfect health previously, sudden and persistent pain in the right iliac fossa, accompanied with vomiting and sluggishness of the bowels; finally, tumefaction and tenderness at McBurney's point we know what this means.

Had there been any fever? Here, I beg leave to make a short digression. There exist between practitioners two sorts of consultation. The first one, which most frequently occurs, is requested by the patient or those in his immediate surroundings. The physician is sure of his diagnosis and perfectly knows what to think of the whole matter, but, they have lost confidence; that cannot be helped. They get discouraged and, gossips helping, they insist in getting another doctor's opinion.

Beware—and here, I address myself to the younger men,—beware, and never commit the imprudence of refusing to acquiesce in the wishes of the family. Gracefully submit to the annoyance imposed upon you; after all, it may be nothing but a pardonable caprice. Consent with pleasant smiles to all they want; you have everything to gain by it. You shall be declared conciliating and charming, and the consulting physician, if he be neither jealous nor imbecile, will share your opinion in everything and this will add to your reputation. The patient will pay double fees and regain the confidence he had lost. Who knows? Perhaps this moral quietness might have a favourable therapeutic influence upon the subsequent evolution of the disease.

The other kind of consultation? This is another affair. An obscure point in the diagnosis; an abnormal and inexplicable feature in the cause of the symptoms; you belong to the privileged class of physicians who have studied enough to be convinced that there are in pathology a few things which one may ignore; you feel that it is your duty to seek the help of a friendly confrere whom you then choose *yourself* whose special knowledge in certain matters you are personally aware of; call him in consultation. But, pray! do facilitate his task which is often very difficult. If especially the question is to establish or confirm a

diagnosis, gather all the materials he may need; write down, if necessary, the detailed history of the case, mention all the symptoms you have observed and the puzzling points you desire to elucidate. In putting thus before the eyes of the consulting physician the complete picture of the disease, you will spare him the necessity of inflicting upon the patient always painful and frequently insufficient inquiries.

I hasten to add that the above remarks do not all apply to the case I am relating. Still, and although I do not attribute more importance than is necessary to the temperature in the diagnosis of appendicitis, I confess that I would have liked very much, all the same, to know whether there had been or not any fever since the onset of the disease. Unfortunately, the thermometer had not been used and all information in that respect was denied to me.

I found the patient all in tears and apparently a prey to the most excruciating pains. It was impossible to approach her, owing to the exquisite tenderness of the abdomen. She hardly allowed a mere inspection, which, however, permitted me to detect an evident tumefaction in the right lower quadrant of the abdomen. The left side could be palpated and was absolutely normal, but it was utterly useless to think of touching even with the tip of the fingers the other side of the abdomen, which she anxiously protected with both her hands against all sort of exploration.

She was immediately taken to the hospital where I decided to remove without delay that appendix which undoubtedly I would find perforated and perhaps gangrenous. I operated the same day. The abdomen was opened along the rectus; the omentum appeared in the wound; it was neither inflamed, thickened nor adherent. I pushed it back in the abdomen where a pad kept it in situ.

I soon fell on the appendix, hard, enormous, the size of the finger. Lying along the colon to which it was intimately adherent, it crossed obliquely the direction of the incision and was pointing north-west. Pursuing my investigation internally, I recognized the uterus, enlarged, soft, the fundus being situated two finger-breadths below the umbilicus. I then tried to ascertain the exact situation of the large intestine, taking for landmark the appendix, but the result of my investigation was not satisfactory. I decided to enlarge the incision in order to make a more perfect inspection of the battle field. I easily drew out of the wound the huge diseased appendix, which looked congested, bluish, almost black. Evidently, it was already gangrenous. I followed the organ with the finger, directing my exploration towards the free extremity which, instead of ending in a rounded, smooth surface, was uneven and shreddy. A closer attention made me suspect for the

first time that what I had taken for the appendix might well be the Fallopian tube. True enough, in plunging my hand into the pelvis, I readily reached its insertion on the right cornu of the uterus. Directing anew my exploration internally where I thought the appendix was adherent to the large intestine, I found out that this hard and elongated body seemed soldered to another, much larger and presenting the same dark blue coloration. I then discovered that, instead of being the bowels, it was a large fluctuating tumour, free from adhesions, and directed towards the umbilicus, posteriorly to the uterus.

The abdomen was at once opened in the median line and I then easily succeeded in exposing the neoplasm, which was nothing else than a dermoid cyst of the right ovary, twisted five times upon its pedicle, strangulated, and the size of a large turnip. I untwisted the pedicle and could then clearly see the tube offering a pink coloration near its uterine insertion, but almost black from the point of strangulation towards its fimbriated extremity.

This case, I fancy, is most interesting. Evidently, the cyst had been in the abdomen for a long time without betraying its existence by any signs whatever. Considering that it was utterly impossible to examine the abdomen owing to its extreme tenderness, I had to make the diagnosis exclusively through the information supplied by the history of the case. That sudden pain in the right iliac region, occurring after a meal in a woman until then apparently in perfect health: the vomiting, constipation, fever, tenderness at McBurney's point; the persistence of the symptoms in spite of rest in bed, hot fomentations, opium and purgatives; and above all, the tumour in the ileo-cecal region: the difficulty of ascertaining the conditions of the organs contained in the pelvis on account of pregnancy; nothing more was needed to believe in the existence of appendicitis. Even after the abdomen was opened, the situation and the characters of the Fallopian tube, appearing in the very region of the appendix, contributed to confirm the likeliness of the diagnosis.

Allow me now, please, to relate briefly two cases of tumour of the iliac fossa in which the diagnosis of appendicitis had been firmly and obstinately maintained by the physicians who brought their patients to me, and where operation proved in a striking manner how imprudent it is to be too affirmative, whenever we have to deal with abdominal diseases.

During the month of April, I received one morning from a physician practising in the vicinity of Ottawa, a message announcing that he was bringing in a patient suffering from suppurated appendicitis, praying at the same time, that everything should be prepared for immediate

operation, because he wished to be present and wanted to return by the next train.

Patient arrived at 11 o'clock and was sitting in the hall when I went into the hospital. He did not seem very ill. I learned that he had driven six miles to go and consult his physician who saw him for the first time that same morning. He was complaining of a pain in the right iliac fossa. The doctor examined him and found at once a lump situated in the ileo-cecal region. The tumour was quite tender and the temperature was 100. Peri-appendiceal abscess was immediately diagnosed and the patient brought down for operation.

The patient was unmarried, 30 years old, with the exception of an attack of pneumonia six years ago, and some intestinal trouble which kept him under the doctor's care for several weeks, he has always enjoyed good health. Temperate habits; no habitual constipation; no diarrhœa. Eight days before, he went to town and took a few glasses of porter. The next day, he complained of slight abdominal pains which he attributed to the porter. However, he never was bad enough to go to bed and even continued to plough on the farm as usual. The pain persisted all the week, situated in the right flank and radiating to the umbilical region. No nausea, no vomiting; appetite not impaired; bowels regular.

The night before, having suffered more than usual, he decided to go to the village with the result already stated. Temperature was normal; the pulse quiet, regular, below 100. General condition good. The abdomen was not distended; no muscular defense. In the right iliac fossa, a tumour, the size of a hen's egg was seen bulging under the integuments. It was quite tender on pressure, hard, not fluctuating, very slightly movable. The limits were ill-defined, and on percussion, a decided resonnance showed that the intestine was situated in front of the tumour. The presence of that lump had never been noticed until the doctor attracted patient's attention upon it.

I declared to the physician that the diagnosis was far from being clear, but none of my arguments could succeed in shaking his conviction that we had to deal with suppurating appendicitis, and I, therefore, decided to open the abdomen immediately.

The peritoneum, considerably thickened was incised; no pus escaped, but the cœcum appeared at once, covering a huge tumour, hard, not fluctuating and apparently situated on the posterior surface of the gut. No adhesions internally and above; adhesions below and externally. A portion of the omentum was adherent to the internal side of the cœcum. The transverse colon was pulled down by adhesions to the ascending colon near its origin. The appendix could not be found, the

inferior part of the tumour being actually soldered to the thickened peritoneum below and externally.

The whole lump was freed everywhere. Two clamps armed with rubber tubing, were applied, one on the ascending colon and the other on the ilium near its termination and the mass was removed, the intestine being afterwards united by lateral anastomosis.

The tumour when examined, showed that there was no obstruction of the bowel, the neoplasm being situated in the posterior and lateral walls of the cœcum and a part of the ascending colon. A section made at the inferior part of the cœcum from Gerlach's valve right through the tumour, split the appendix in two longitudinal halves intimately set, as it were, in the solid tissues of the tumour, resembling old fossils found imbedded in stones. Microscopical examination showed the neoplasm to be composed of fairly young fibrous tissue, the processus having spread to the walls of the cœcum and caused the thickening.

Although no tubercle baccilli were found, I incline to believe that this was a case of hypertrophic tuberculoma of the cœcum, because the tumour offered the clinical characters of similar cases published by Dieulafoy in the October number of *La Semaine Médicale*, 1902; unless it belongs, perhaps, to the class of cases described by Marchand, Schwartz and others and constituted by the inflammatory hypertrophy of the ileo-cecal segment of the intestine.

The other case of tumour of the ileo-cecal region mistaken for peri-appendiceal abscess is that of a man, aged 57, brought in to me for operation. Here again, I was informed of the arrival of the patient by a message accompanied with the earnest request that I should perform the operation at once, so that the physician might go back the same day.

Gentlemen, I avail myself of this opportunity to declare that I am one of those who think that, unless there be extreme urgency it is, to say the least, imprudent to do any abdominal operation before the patient has been at least for a while under observation. The diagnosis of abdominal diseases is generally surrounded with such difficulties, that we are in duty bound to put all the chances on our side. We must endeavour to gather all the information we can, in order to enable us to acquire the most complete knowledge possible of the conditions liable to be encountered.

In this case, I refused to resort immediately to the operation because the symptoms, both objective and subjective, left too much doubt in my mind, concerning the existence of a purulent collection in the abdominal cavity and this, in spite of the peremptory conviction expressed by the family physician.

The patient looked comparatively well. The abdomen not distended,

seemed quite normal with the exception of a bulging readily seen in the right iliac fossa. The lump, pretty well defined, hard, movable, not fluctuating, moderately tender on pressure, filled a triangular space formed by a base extending from the spine of the ilium to two inches below the umbilicus, the right side of the triangle following the median line, the left parallel to Poupart's ligament and the apex reaching down to about the level of the internal abdominal ring. The mass, dull on percussion, was evidently situated in front of the intestine, being, in fact, superficial enough to make me think of its possibly being located in the deep parts of the abdominal walls. Temperature normal; pulse 76; bowels constipated.

Three weeks before, he had begun to suffer in the right lower quadrant of the abdomen, from a pain which he attributed to constipation, bowels not having moved for several days. No chill, no nausea, no vomiting. Constipation remaining obstinate in spite of purgatives, he left the shanty where he was working and drove down to Sudbury where a physician ordered purgative pills which succeeded in moving the intestines.

At the end of two or three days, the pain, although not entirely gone, was somewhat relieved and the patient went back to the shanty. Constipation soon returned, and the patient feeling miserable, decided to go home where the family physician was consulted. After examination, the physician attracted patient's attention to a tumour quite apparent in the right iliac region, which until then had never been noticed. Fomentations were applied, but conditions remaining practically the same, the patient was taken to Ottawa to be operated.

An incision was made along the rectus. The skin divided, the subjacent tissues appeared thickened, lardaceous. The abdominal muscles were fully two inches thick, the peritoneum so intimately adherent to them that it was almost impossible to find out the anatomical relations. No serosity, no pus in the abdomen. The transverse colon with its omentum appeared first in the wound. Following the upper end of the colon, I soon reached the termination of the ileum. Grasping then between my fingers, the internal lip of the incision, I clearly ascertained that the whole tumour was caused entirely by the inflammatory infiltration of the abdominal muscles.

The appendix was found literally imbedded in the peritoneum lining the internal surface of the abdominal wall, its tip directed south-east and so snugly adherent that I had to carve it out of its bed. It was thick, congested, but no pus, no fecal concretion were found in its cavity, the mucous membrane offering the normal lymphoid appearance.

If it frequently happens that tumour situated in the ileo-cecal region, are mistaken for appendicitis, on the other hand, suppuration due to appendiceal inflammation have, in several instances, been mistaken for other diseases, such as for example, cancerous or tubercular neoplasms.

In its classical forms, appendicitis is easily recognized; but, the disease at times presents in its course, its evolution, its behaviour, anomalies which produce a deceptive impression and readily mislead us. In the iliac fossa, a tumour, firm, hard, growing slowly; a progressive emaciation, a well marked cachexia cause the surgeon to suspect a malignant and inoperable tumour; and one day, a central softening seems apparent, the focus is incised and the tumour disappears. Such is the history of these cases of appendicitis, neoplastic in their form which not uncommonly lead to errors of diagnosis. In *La Revue de Gynécologie et de Chirurgie Abdominale* M. Vautrin relates the case of a woman aged 55, previously in good health who had been complaining for three months of severe pains in the right iliac region, where a lump had slowly developed. The physician pronounced it to be a tumour of the large intestine and Vautrin having corroborated the diagnosis, operated upon the patient. He found a retro-cecal purulent collection with a hard, sclerotic appendix adherent to the posterior surface of the cœcum.

Legueu and Bausserat also cite the case of a man aged 60, on whom the diagnosis of cancer of the cœcum had been made eighteen months previously by a surgeon who deemed all intervention utterly impossible. The tumour kept growing gradually, the patient becoming absolutely cachectic, and the family, informed of the incurability of the disease, expected early fatal termination, when a spontaneous opening supervened on a level with the umbilicus, giving issue to a large quantity of pus. Patient felt relieved, appetite returned, the emaciation disappeared. To-day, he is in perfect health.

The same authors again mention another case of that kind concerning a man, kept for a long time under observation in one of the large hospitals of Paris, in whom the resection of the cœcum had been decided upon. The patient was brought on the operating table and the abdomen opened. It was a case of suppurated appendicitis.

Finally, Pozzi, in March 1897, operated in Broca Hospital, on a patient whose observation is so interesting that I beg permission to relate it in a few words. A woman, 68 years old, had been complaining for several months of an unusual fatigue associated with a progressive emaciation, which nothing could explain, when, one day, she was suddenly seized with very severe pains, localized in the right side of the abdomen and very soon followed by tympanitis, nausea and vomiting. The latter symptoms soon abated, but weakness persisted,

appetite entirely disappeared, and excessive emaciation compelled the patient to keep to bed until the day when she entered the hospital.

Examination disclosed in the right iliac fossa the presence of a hard mass, dull on percussion, seemingly immovable and very tender on pressure. General condition very bad; fever with vesperal exacerbations. The diagnosis was uncertain, successively oscillating between appendicitis or degenerative affection either cancerous or tubercular of the cœcum.

The long evolution of the disease, the subacute course, the absence of fluctuation, the age of the patient, were very little in favour of appendicitis; but, on the other hand, the existence of fever with large vesperal oscillations, hardly agreed with the idea of neoplasm of the cœcum. Patient was examined under anesthesia, but then, the hardness of the tumour, its irregularities, its adhesions to the iliac bone brought out the diagnosis of osteo-sarcoma, and all idea of surgical intervention was given up.

The weakness, the emaciation increased every day; the complexion became earthy. However, very soon no doubt was entertained about the presence of suppuration in the iliac fossa and Pozzi operated. The skin and deep tissues being incised, he fell into a cavity containing three pints of pus with decided intestinal odour. Patient died the same evening. The autopsy showed that the collection was retro-cecal, due to a perforation of the appendix situated at the union of the appendix and the cœcum.

Mistakes of that kind, gentlemen, will become less and less common according as surgeons learn not to consider appendicitis as a disease always presenting a uniform clinical aspect. We must, therefore, constantly bear in mind that this affection often assumes the most deceptive appearance and quite liable to divert our attention elsewhere than to the real seat of the pathological lesions. I still recollect the perplexed situation in which I was placed by a woman who entered the hospital during the month of June last. She had a hard, moderately tender and perfectly well defined tumour in the iliac region. There was no fever; general condition was excellent. Six weeks previously, she had been admitted in the hospital, complaining of some abdominal pains and a sanguineous discharge by the vagina. She was kept three weeks under observation by the attending physician who prescribed hot vaginal douches. Becoming apparently well, she left the hospital but returned two days later, owing to severe abdominal pains with which she had been seized the night before. She did not seem to be at all aware of the tumour which I readily detected in the iliac region at my first examination. She was then complaining of very little pain, had

no fever and remained sitting up in the ward, feeling comparatively well until the day of the operation. Laparotomy revealed the existence of a large cavity filled with pus and at the bottom of it I found a perforated and gangrenous appendix.

May I be permitted to end this series of citations by the relation of a case of tumour of the iliac fossa, comparatively rare and certainly offering the greatest interest? About the middle of the summer, a woman, aged 33, was admitted to the hospital, complaining of occasional pains in the right iliac region where a tumour had been slowly growing for several years. She traced the beginning of the illness to seven years ago, when one day she experienced in the right lower abdomen a sharp pain which compelled her to remain in bed for almost a week. No constipation, no nausea, no vomiting. She said that ever since that time, she had been subject to similar attacks of pains, coming on suddenly at various times and gradually disappearing. At first, these attacks seemed to coincide with menstrual epochs, but lately they had showed no particular connection with monthly periods. She had lost considerable weight; the appetite was impaired. The lump which did not seem to have much increased in size of late, was moderately tender except during the paroxysms when it became very painful.

On the right side, midway between the umbilicus and the anterior spine of the ilium, a tumour was distinctly felt, hard, very slightly movable, the size of an orange, not lobulated and quite tender on pressure. During examination, gurgling noises were heard, produced by the displacement of intestinal gas. The abdomen was opened and the tumour appeared, situated at the union of the ileum and the cœcum, in the region of the ileo-cecal valve. The omentum, adherent to the upper part of the tumour pulled the neoplasm upwards, dragging at the same time the transverse colon downwards. Superiorly, the limits of the tumour were not clearly defined, the upper part was adherent to the meso-colon, forming a mass whose anatomical relations were difficult to ascertain. In trying to detach some of the adhesions I perceived that the gut was perforated. Introducing my finger in the perforation, I could feel inside of the bowel the rough surface of the tumour and thought for the first time of the possibility of its being a large enterolith. However, the bowel being perforated, I made the resection of the cœcum including the tumour, uniting afterwards by an end-to-end anastomosis the termination of the ileum to the ascending colon. Fully six inches of the bowel were removed.

The parts examined after operation showed the presence of a large globular mass, the size of an orange and composed of hardened feces. The mass perfectly smooth, was free in the cavity of the cœcum and

fell out of its site, which must have been almost entirely filled by the enterolith, and it is a wonder that the patient never offered any symptoms of intestinal obstruction.

This paper, which I have the honour of reading before you, has, I hope, contributed to a certain extent to demonstrate how varied and deceptive are the affections characterized by the presence of a tumour in the right iliac region. Thus, out of five personal cases, one was due to an ovarian cystoma; another, to a dermoid cyst with twisted pedicle; a third, to hypertrophic tuberculoma of the cœcum; a fourth, to interstitial myositis and finally, the last, to an enterolith of the large intestine.

The conclusions which we may draw from these varied observations are as follows:—

1. The extreme difficulty of making an accurate diagnosis in several cases.

2. The facility of mistaking for appendicitis, cases of entirely different origin and *vice versâ*.

3. In presence of an abdominal tumour, never to take the knife in hand without being prepared for any kind of emergency.

4. Whenever a case has not been personally observed from the beginning, always to reserve the diagnosis, whatever may be the ability or the cleverness of the physician by whom we are called in consultation.

5. Finally, that the abdomen is a mysterious region of the human body, concealing a great many obscure diseases in the surgical treatment of which many a patient loses his life, and the surgeon, quite frequently, a good deal of his self-complacency.

ON STOKES-ADAMS SYNDROME.

BY

B. D. GILLIES, M.D.,

Montreal.

His, Jr. Ein, in Fall von Adams-Stokes'scher Krankheit mit ungleichzeitigem Schlagen der Vorhöfe und Herzkammern. (Herzblock.) *Deutsches Archiv. für Klinische Medicin. Band LXIV.*

A. Hoffmann. Zur Kenntniss der Adams-Stokes'schen Krankheit. *Zeitschrift für Klinische Medicin. Band XLI.*

A. Jacquet. Ueber die Stokes-Adams'sche Krankheit. *Deutsches Archir für Klinische Medicin. Band LXXII.*

This interesting phenomenon which has long been recognised clinically and studied by the English and French schools of medicine has only recently received special notice in the German literature. Grob, in 1888, in his article Ueber Bradycardia includes several cases presenting

the Stokes-Adams symptom complex yet they are not placed in this category, and the same may be said of Riegel who wrote on the same subject two years later.

In each of the above contributions the authors after reporting a case go on to analyse the special features each presented and make them the basis of a general study of the so-called Stokes-Adams Disease. This applies especially to the article by Jaquet.

These case reports briefly are as follows:—His, jr. Male, 54 years of age. Onset one year ago, after severe work with loss of consciousness. Similar attacks recurred till the patient came under observation. Physical examination revealed nothing abnormal in any system but the circulatory, with the exception of evidence of presence of emphysema.

The heart was slightly enlarged to the left. The apex pulsation was not visible nor impulse palpable. On auscultation at the apex the tones were heard only with difficulty and were not clearly distinguishable from each other. The same was noted over the tricuspid area and at the base of the heart no tones were audible. The peripheral vessels were thickened and hard. The pulse rate was 36-44 per minute. The urine contained a trace of albumin and hyaline casts.

The patient was under observation for a month and a half and during this time the pulse remained constantly slow. The attacks of loss of consciousness observed could be divided into three distinct types.

1. Complete absence of pulse followed by pallor, dyspnœa convulsions, dilatation of pupils, loss of consciousness.

2. Pulse remained regular or stopped but for a short time, the breathing, however, was irregular and consciousness lost.

3. The attack began with apnœa and later the pulse failed. During one of the attacks His observed pulsation of the cervical veins even when the arterial pulse could not be palpated, and later when it returned the venous pulsation was noted to be negative and one arterial beat corresponded to four of the venous.

The patient died three months after leaving the hospital. No post-mortem examination was obtained.

Hoffmann's patient was a female aged 23, who had an attack of loss of consciousness at the age of 21, but vertigo had been felt for over a year before this time. Rest and quiet had a very beneficial effect, but the following year the condition returned after the patient had attempted some severe work. The attacks now came on every week, but again disappeared as before. During the last month and a half before she came under observation, they were more frequent than ever.

The patient was a pale rather poorly nourished woman. The heart

was slightly enlarged to the left, the apex impulse not palpable. On auscultation at the apex the tones were weak but clear. The heart's action was irregular, being in series of two beats with a long intervening pause. At the pulmonary cartilage, during this pause, an unclear tone was heard. The pulse, 48 per minute, presented the character of the pulsus bigeminus. The arteries were soft and elastic. Hæmoglobin, 55 per cent.

The attacks were always of the same character. The onset was sudden with complete loss of consciousness, no aura being present. There were no convulsive movements at any time. The breathing was irregular and the pulse rate slowed to 18 per minute, later increasing to 30. During the pause low unclear tones could be heard over the precardium. No visible pulsation was present over the vessels of the neck. The duration of the attacks varied from an hour to an hour and a half.

Jacquet's patient was a male 30 years of age, who eight years previously contracted a suspicious ulcer on his penis. For several years the patient had noticed that he tired easily from very slight exertion, but during the past year and a half this became much more pronounced. The first attack of loss of consciousness came on one year before coming under observation and during it the pulse rate was 17 per minute. The following day he had a second attack and then remained free till a few weeks before admission to the hospital. There were no convulsive movements during any of these attacks, but there was involuntary micturition. At times an aura preceded the onset.

The patient was very anæmic with regular slow pulse 24-32. The arteries were not thickened nor tortuous. The heart was enlarged to the left and to the right, the precardium showing heaving pulsation. At the apex the first sound was unclear followed by a soft systolic murmur; the second tone clear. In the pause occasionally one or two low tones were heard not accompanied by a perceptible pulsation. At the base the same was heard. The jugular veins pulsated two or three times more frequently than the arteries.

In an attack which occurred while the patient was under observation he lost consciousness, became very pale, the pulse was absent for a time and the heart sounds were very feeble. The pulse was irregular and unequal after the attack. The patient had quite recovered 10 minutes after onset.

Ten months later the patient died. Postmortem examination revealed the presence of fragmentation of the muscle of the left ventricle. The right ventricle was normal and nowhere was there any evidence of arterio-sclerosis. The medulla oblongata was normal throughout.

The authors recognise at the outset that the symptom-complex 'bradycardia with attacks of loss of consciousness of a syncopal, apoplec-'tiform, or epileptiform character and accompanied by disturbances of respiration is by no means due to a single pathological lesion. In the heart may be found fatty degeneration fibroid myocarditis simply or associated with sclerosis of the cerebral vessels. Uræmic poisoning may be the cause, also different lesions of the medulla and vagus.

The bradycardia may be permanent or transitory. Jacquet draws attention to the obstinacy of this condition. The pulse rate is not influenced by change of posture, exertion or presence of fever. The observation made by both Jacquet and His of venous pulsation in the neck more frequent in rate than that of the pulse, has been noted also in many cases of this condition. Stokes observed the phenomenon in one of his patients. His regarded it as being an example of "heart block" as described by Gaskell. Jacquet, however, considered that he had to do with an example of the so-called *formes frustes* described by Huchard and considered two possibilities at work as causative factors. First, diminished irritability of the muscle of the ventricular 'wall, and second, impaired capability of the muscle to transmit stimuli originated in the auricle. Hoffmann considers these two factors as being the cause of the bradycardia and the allorrhythmia present in his patient. The latter confirmed his impression by direct inspection of the cardiac movements by means of the Roentgen rays and the former arrived at his conclusion by a study of the curves obtained by the cardiograph and sphygmograph.

The vessels in patients presenting the Stokes-Adams syndrome are frequently thickened and tortuous, but this does not apply to all cases for in Jacquet's patient the postmortem examination revealed entire absence of any change in the vessel walls. In Hoffmann's patient also the peripheral vessels were soft and elastic.

Pallor is not infrequent. In Hoffmann's patient it was due to the condition of the blood. In many cases, however, the cause is regarded by Jacquet as being due to active vaso-constriction of the vessels in certain areas. The coldness of the extremities, parasthesia numbness, itchiness and the feeling of dead fingers may be readily explained in this way. Stokes states that one of his patients could prevent an impending attack by sinking on his hands and knees and dropping his head downward.

The second cardinal symptom is of neurotic character: viz., the apoplectiform and epileptiform attacks. These may vary in degree from a slight attack of vertigo to deep coma or typical epileptiform convulsions. His' patient presented different types as given above, that is

at one time the pulse was the first to fail, at another Cheyne-Stokes breathing with undisturbed heart action and again apnœa the pulse being affected later. His regards the heart as being the cause of the first type of attack, the second and third types being originated in the medulla from sclerosis of the vessels and irritative impulses originating there acted secondarily on the heart. Hoffmann regards all as being cerebral in origin. Certain attacks cannot be differentiated from true epilepsy. An aura may precede the convulsion. Others may simulate *petit mal*. Differences in the pupils have been observed also loss of memory and a deterioration of the mental condition.

The third cardinal symptom is the disturbance of respiration. This, however, may be absent. Cheyne-Stokes respiration, dyspnœa or irregular breathing may be present. In the intervals between the attacks there may be slight dyspnœa on exertion due to emphysema.

Digestive disturbances are frequently met with. The attack may come on after a heavy meal or there may be dyspeptic symptoms, epigastric distress, eructation, vomiting, diarrhœa or obstinate constipation.

Jacquet goes fully into the etiology of the condition. It was at one time regarded as being seen only in elderly individuals but its occurrence in persons under 30 years of age is being more and more frequently reported. Arterio-sclerosis is present in the majority of cases, but not infrequently all signs of this are absent. Syphilis appears to play a part in the etiology of Stokes-Adams disease. Whether the use of alcohol and tobacco have any bearing on the condition is not decided. Infectious diseases have, however, a definite relation to the condition. Several cases are cited as having occurred after pneumonia, acute rheumatism and during typhoid fever. Gastro-intestinal disturbances may have some influence, but other factors may be active at the same time. In Hoffmann's case a profound anæmia was the fundamental causative agent. Injury to the central nervous system and tumours may give rise to Stoke-Adams syndrome. In certain cases no cause whatever can be ascertained.

That the morbid changes must be varied follows directly from a consideration of the etiological factors. Extensive arterio-sclerosis especially calcareous degeneration of the coronary, and cerebral arteries and vessels of the medulla oblongata are found in some cases. In others, no arterial change is present, but fatty degeneration of the heart. Lesions of the cervical cord irritating the medulla may be the anatomical basis. Pathological examination may in some cases reveal no morbid change.

The pathology has been differently regarded by different observers.

Stokes and Adams both considered the cardiac lesions as the essential features leading secondarily to anæmia or hyperæmia of the brain. Charcot, from his observations, concluded that the medulla was the seat of the disease. The nervous symptoms were explained by lesions of this part of the nervous system and the bradycardia due to irritation transmitted by the vagus. Tumours of the medulla and traumatism of the upper cervical cord favoured this view. Huchard taking an intermediate position regarded as the pathogenic factor the sclerosis of the coronary arteries and of the cerebral vessels bringing about an insufficiency of the heart and nutritional disturbances of the brain. Neuritis of the vagus has given rise to the Stokes-Adams syndrome. Dehio's researches in this respect to which Jacquet refers are very interesting. His' opinion has been given above. Hoffmann considers the heart as the seat of the lesion and the cerebral anæmia secondary to it as the cause of the nervous symptoms. Jacquet considers it rather remarkable that previous observers have directed their attention only to the heart and medulla oblongata and have disregarded vaso-motor influences entirely. These play a very significant role as indicated by the extreme pallor which is present at the beginning of a seizure and which gives place to a diffuse blushing when consciousness is returning. Other arguments are also brought forward which support this view.[2]

The diagnosis is to be made when a patient with bradycardia has attacks of loss of consciousness or epileptiform seizures. Jacquet is rather inclined to exclude cases of transitory bradycardia.

The prognosis is in all cases grave, as the patient may die during an attack. In young people, however, when there is no thickening of the vessels permanent cure has taken place. Cases of 13-14 years duration are on record.

The treatment is in many cases very unsatisfactory. Digitalis has no beneficial effect. Huchard recommends amylinitrite and nitroglycerine. Hoffmann's patient was cured by inhalation of oxygen. If a history of syphilis is obtained specific treatment should be employed. Attention should be paid to the diet and purgatives used when necessary.

Dr. Osler's paper has not been referred to in this article as it has been reviewed in a recent number of this JOURNAL.

[1] In the Monatschrift für Kinderheilkunde, Feb. 1903, is an article on Stokes-Adams syndrome in children.

[2] Ortner concurs in Jacquet's view in an article entitled Zur Klinik der Angiosklerose der Darmarterien Volkmann's Sammlung Klinischer Vortrage Nr 347.

THE USE AND ABUSE OF SOAP

BY

J. Leslie Foley, M.D., L.R.C.P., Lond.

Physician to the Department for Diseases of the Skin, Western Hospital, Montreal.

Mankind is divided into two classes, those who wash and those who do not wash and the advice given by gruff old Abernethy to the mother of the little boy who consulted him, that he should take a good bath, is still of general application.

Of making soap there is no end. Innumerable are the manufacturers of soap. Perhaps the oldest is that of Pears', which was originally recommended by the English dermatologists, the late Sir Erasmus Wilson and Tilbury Fox. Cleaver's soaps are excellent, Wright's Coal Tar Soap is much used, while the name of Colgate of New York is also well known. Packer's is increasing in popularity; Aichorst and Stiefel of Germany make an excellent medicated soap, and Midgeley and Allen and Hanbury of London do likewise.

What are the characteristics of a good soap?

(1) It should be made of the purest materials.

(2) It should act as an emollient to the skin.

(3) It should be free from an excess of alkali.

(4) It should act as a detergent, clearing and purifying the cutaneous surface.

(5) It should never irritate the skin.

A badly made soap may set up a dermatitis, eczema or erythema. Many of you, no doubt, have had patients come to consult you about an inflamed irritated skin, the result of the abuse of soap and water,—perchance a young lady, one anxious to have a clear fine complexion who has been too assiduous in the use of soap and water.

How are we to remedy the eczema or dermatitis set up by a bad soap? A solution of oatmeal water may be made (one tablespoonful of oatmeal to a pint of water) warmed and strained. The patient may wash the face with this, and may use olive oil, and avoid the use of soap and water. Or the patient may wash with olive oil, to this a few drops of carbolic acid may be added, and rubbed with a little cornstarch or orrisroot.

To overcome the disadvantages of using a soap, B. Merril Richetts has devised a substance which he calls Saponaceous Cream. The two things most important are, the attainment of an absolutely neutral soap, containing neither alkali or acid, or one composed of fat or oil, not prone to decompose. To this is added the fresh albumin of egg, thoroughly incorporated by means of an egg-beater, a few drops of oil of roses, bergamot, bitter almonds being added to give it an agree-

able odour. With this may be incorporated medicinal agents of varying strengths; icthyol, 5 per cent.; iodol, one per cent.; boracic acid, 5 per cent.; thymol sulphur, 5 per cent.; eucalyptol, 5 per cent.; hydr. bichlor. ½ per cent.; carbolic acid, 5 per cent.

Soaps have the power of softening the epidermic cells; this opens these cells more to treatment and it is for this object that medicated soaps are used. They have their chief action and sphere in cases where soap for the use as soap is used, and not as a vehicle for drugs.

Soaps may be applied in various ways: by simple washing, by rubbing in the lather and allowing it to dry on, by rubbing in thoroughly till dry, and by covering the lather with an impermeable material.

The Romans luxuriated in well kept much frequented marble slab baths, where the voluptuary remained for hours and after the bath he anointed himself with oil or ointment. In the previous ages soap was unknown.

Pliny says the Gauls were the first to make soap by mixing ashes and tallow. Chevreul, who died in 1899 at the age of 103, published his researches in 1813, and nothing definitely was known till then of the chemistry of soap. Soap is the result of the union of one or more acids obtained from fatty bodies, accomplished with an alkali and oxides, the process consisting in the substitution of the alkali for a radicle of the acid, the latter combining with the elements of water to form glycerine.

The chief adulterations of soap are, lime, gypsum heavy spar, stearates, pipe-clay, and Spanish blue. These can be detected by dissolving the soaps in water.

Saponification is due to the union of alkalies with animal fat or vegetable oil, by boiling the oils in a solution of the alkalies. Caustic soda makes the soft soap, and caustic potash the hard soap. The alkaline oleates, palmates, and stearates constitute ordinary soap. After chemically testing olive oil and soda, water is added, the result being saponification into a smooth gelatinous, opaque, odorous, and neutral mass. It has been determined that olive oil is the best to obtain such an end, while cocoa-nut oil and palm oil contain properties conductive to rancidity.

There are two classes of patients who use soap and water on their hands and faces: (1) those who are exposed to dust and dirt due to occupation or otherwise; (2) those who wash, and use powder and cosmetic.

For the first it is better to abstain from the use of soap and use olive oil on soft linen or silk. The second class should abandon the use of

cosmetics, and use olive oil with a little carbolic acid, and afterwards use rice powder.

The great Hebra has handed down to modern dermatologists an invaluable soap—spiritus saponis alkalinus. This makes an excellent shampoo, and is a good vehicle for removing scales, crusts, and is an excellent remedy in chronic eczema and psoriasis.

Soaps when added to other remedies will often increase their efficacy in psoriasis, in lupus erythemus, acne vulgaris, syphilitic scleroses, and in the dry scaly condition of syphilitic patients. Mercury may be administered in an unostentatious way in the Neapolitan soap.

One dram of oil of cade or of Rusci may be added to the spiritus saponisal kalinus, making it very effective in scaly and chronic infiltrated cases of eczema and psoriasis.

Soaps may be divided into: (1) Alkaline, (2) Neutral, (3) Superfatted, (4) Medicated.

For ordinary use neutral soaps are the best (Norman Walker). Alkaline soaps are less thorough in their action than more fatty ones, and require more water to be satisfactory.

Unna was the first to introduce superfatted soap, and W. Allen Jamieson is loud in praise of a superfatted soap in preference to an alkaline one. He claims that in winter while the cold easterly winds prevail, his hands invariably suffered from redness, roughness, and were painfully chapped, but this disappeared after using the superfatted soap.

Vinolia Soap is pure, superfatted, and well adapted for the nursery and for children. Calverts', the original makers of carbolic acid soap, are good of their kind. There is another soap of Canadian manufacture, manufactured by the Albert Toilet Company, which is a good superfatted soap.

The chief use of a superfatted soap is when the skin is very delicate, as on the face, and when there is a tendency to eczema. But it is inferior in cleansing purposes to a well made neutral soap. Crocker does not think much of the use of medicated soaps in derma-therapathy. He thinks their virtues have been exaggerated.

Medicated soaps are effective in that they largely promote absorption in opening and cleansing the pores of the skin. They are convenient and cleanly. They insure the absorption of topical remedies. The medicated soaps are de-odorizing and disinfecting. Soaps being salts of the fatty acids are essentially not irritant.

Acid boracic soap makes a good shampoo, is excellent to use for those who have a delicate skin.

Sublimate soap is useful in sycosis, syphilitic eruptions and erysipelas, phlegmon, furunculosis, impetigo, ecthyma.

Aristol soap is useful in all syphilitic eruptions, ulcerations, diseases of the scalp, and perspiring feet.

Balsam Peru soap, 5 per cent., is a good emollient and antiseptic soap.

Benzoic Acid soap, 5 per cent., is useful for children in persistent inflammatory infections of the skin, keeps the skin soft and fresh and prevents excessive perspiration.

Birch tar soap, 5 per cent., is useful in moist and dry skins, comedones, and seborrhœa sicca.

Birch tar and sulphur soap is useful in herpes, redness and seborrhœa sicca, freckles and miliaria papulosa.

Carbolic acid and sulphur soap is useful in eczema and parasitic skin diseases.

Chrysorobin soap, 5 per cent., is useful in chronic eczema, alopecia areata, parasitic skin diseases, tinea versicolor, ring-worm, favus, most obstinate nervous affections, anidrosis, and pruritus.

Creolin soap, 5 per cent., is useful for disinfecting hands.

Cucumber soap, 5 per cent., is useful in sunburn, lentigo, and for preserving the complexion.

Eucalyptol soap, 5 per cent., is useful for chapped hands and is a good deodorizer.

Napthol soap, 2½ per cent., sulphur precipate, 10 per cent., is useful for removing tan and freckles.

Iodoform soap, 5 per cent., is used for chancre, in the syphlodermata, and hyperæmia of the skin, varicose ulcer, hyperidrosis, chilblains, urticaria, keratosis and ichthyosis.

Ichthyol and tar soap is useful in eczema and troublesome cases of impetigo.

Iodoform soap, 5 per cent., is used for chancre, in the syphiloderma, and dermatitis of all kinds, useful in lupus, tubercular skin affections, in leprosy, actinomycosis.

Lysol soap is a disinfecting soap.

Marble dust soap is useful in removing hardened crusts, psoriasis, lichen planus.

Menthol and eucalyptol soap is useful in urticaria.

Napthol and glycerine soap is useful in chronic skin diseases, moist herpes, etc.

Napthol and sulphur soap is useful in freckles.

Petroleum and tar soap is useful for those having a delicate skin, and in eczema impetigo.

Frequent washing causes an excess in the exfoliation of the cuticle. The skin is rendered coarse and rough by the frequent use of cosmetics, soap and water. Less frequent bathing renders the skin softer,

smoother and less scaly. After a good soap bath Buckley highly recommends a dram and a half of carbolic acid added to four ounces of glycerin amyli.

To protect ladies from the alternations of temperature, dust, sun and wind, the following well known to every dermatologist but not so well known to the general practitioner, is useful:

R Acid boraci, half a dram, glycerin, half an ounce, gum tragacanth, half an ounce.

EXCISION OF THE CLAVICLE WITH RESTORATION OF PERFECT FUNCTION OF THE ARM.

BY

F. J. HACKETT, M.D.,

Western Hospital, Montreal.

The case presented is of interest, as being an example of a somewhat rare surgical operation, doubtless because the cases requiring the complete removal of the clavicle are not of frequent occurrence. The operation itself, which presented no unusual features, was easily performed. The main point of interest in the case is the result, and for that reason it is brought to the notice of the members of this Society. It affords an example of how a young man can get along without his bony clavicle, and of the small amount of deformity resulting in this instance.

The patient was seen for the first time on September 10th, 1903, complaining of an inflamed and painful swelling in the right clavicular region towards the middle line, caused by injury. The patient is 17 years of age; he has enjoyed good health, and the only clinical fact of importance which can be ascertained is that when about five years of age he was for nine months in a hospital for disease of the hip joint. It has not troubled him since that time nor is he lame at present.

The father died at the age of 40; he was accidentally killed, but had always enjoyed good health. The mother is alive and addicted to the use of alcohol. Two brothers are living, younger than patient, and in good health; one sister is 12 years of age and healthy. In the mother's family there is a strong alcoholic taint. The patient presents both mental and physical signs of degeneracy.

The patient was injured, September 1st, 1903, by the rough handling of a fellow-workman and in the scuffle he was thrown down a flight of stairs. He returned to his work two days later but had to stop on account of pain. He applied at the outdoor department of the Western Hospital for relief on September 10th.

On examination an acutely inflamed area was found in the right sub-

Read before the Montreal Medico-Chirurgical Society, May 6th, 1904.

clavicular region radiating from the junction of the clavicle and sternum and extending over into the pectoral region, the point of greatest intensity; fluctuation was felt over the sterno-clavicular joint. The temperature was 101, the pulse 95: haggard appearance, with constitutional depression. The various systems presented nothing of importance bearing upon the present state excepting the osseous system.

The spine is quite straight and regular, the thoracic cage, however, is asymmetrical, the left side bulges anteriorly, the costal cartilages especially being arched forwards, the right side is depressed and flattened. There is no history of inflammatory disease of the lungs or pleuræ which might have caused this, it is probably associated with faulty bony development.

The diagnosis was Suppurative Arthritis of Sterno-clavicular joint.

An incision was made along the inner end of the clavicle and the articulation opened. A quantity of pus escaped and bare bone was felt and the sternal end of the clavicle was curetted away. The cavity was swabbed out with undiluted carbolic acid and packed with gauze. The wound was dressed at the outdoor department until September 29th, when through the sinus bare bone was again felt extending towards the outer end of the clavicle. The patient was admitted to the surgical ward for removal of dead bone comprising the entire clavicle if necessary.

On October 1st, under general anæsthesia, an incision was made over the clavicle down to the periosteum which was much thickened; it was cut through to the bone and this was found to be necrosed. The periosteum was pushed aside, the bone exposed, grasped with strong forceps and drawn outward, the periosteum was separated from the under surface and the clavicle lifted out. The periosteum was almost entirely left in the wound, only a small portion which is seen on the specimen being taken away; it formed a gutter-shaped cavity where the bone had been.

A counter opening was made at the acromial end posteriorly for drainage and the main incision closed. The operation was carried on sub-periosteally and there was very little hæmorrhage.

The patient was kept in bed for fourteen days and made an uneventful recovery leaving the hospital with a fairly resistant ridge extending from the sternum to the tip of the shoulder. He was able to use his arm, doing light work and carrying weights, such as a bucket of water, on the first of January, 1904, and is now at work in a machine shop doing ordinary manual labor without inconvenience. The periosteum left in the incision has grown and forms at present a stout, resistant bony ridge taking the place of the clavicle. The functions of the arm is perfect. The pathological report was that of Tuberculous Ostitis.

THE

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MEDICAL EDUCATION IN AMERICA.

It is strange how, in this world of ours, the most unlikely and distant things become linked together. Who, for example, would imagine any but a metaphorical relationship between diamond digging and medical education? Yet such relationship has developed itself in the report that lies before us—the Report of the Mosely Educational Commission. How it developed itself is a suggestive piece of personal history.

It was in the early days at Kimberley some fifteen years ago. Diamonds had been found and miners and speculators had rushed to the scene; among them Mr. A. Mosely. But, though the diamonds were undoubtedly there, more gold was sunk into the blue clay than diamonds extracted. Few managed to make even moderate fortunes. To be remunerative, it was necessary that work should be on a large scale; this the financiers recognized, among them Cecil Rhodes. Incidentally we may mention that it was Mosely who interested Cecil

Rhodes in the diggings and sold to him the stock which now is to support the Rhodes Scholars at Oxford. But financiers may finance and success still be lacking. That success depends upon the managing heads of an undertaking. In this case, before all things, capable engineers were required. The larger concerns were essentially English—if, to a large extent, Anglo-Israelitish—and, naturally, one after another, English engineers were appointed as managers. They were, as a body, sound, solid, well-trained men; too solid perhaps, for, somehow, matters did not prosper. At this juncture Cecil Rhodes amalgamated the properties into the celebrated De Beers Company, and Gardner Williams, a California engineer, was called to assume control. The change in the state of affairs wrought by Williams and his second in command, Louis Seymour, another American, was marvellous. Alert and resourceful, understanding not merely how to cope with engineering difficulties, but, above all, how to deal with men, Williams and Seymour rapidly transformed the Kimberley mines into one of the greatest, if not the greatest, profit-making concern in the world.

No wonder that Mr. Mosely, who had known the dark days, was deeply impressed. The Americans had done it. But how? They were men of the same stock. What then gave them this commanding advantage? Pondering over the problem for many years he came to the conclusion that their success must be due to their early education. Thus it was that he determined, for the good of the old country, to send to America a commission composed of those interested in the different branches of education—in primary and secondary education, in business, technical and university education—to study American methods and to report for the instruction of Great Britain, upon what made it that "the United States could afford to pay half a dollar in service where we paid a shilling, and still compete with us in the markets of the world"?

The Report with the carefully considered judgments of its six and twenty experts is of the highest interest. Not one of its four hundred or so pages but contains material for reflection. Whether it will be quite satisfactory to Mr. Mosely is another matter. Rather, in reading it, we detect a savour of Balaamism. Mr. Mosely had expected that the Commission would demonstrate the superiority of American methods and show how it was all done. But it is not, the commissioners seem to say, one after the other, the education that is superior; it is different in many respects, and this or that method strikes us as well worthy of consideration; we in the old country afford in general as thorough, if not a more thorough, training. Only, would it seem, in "English" and scientific teaching and in the recognition of the close affinity which

these subjects bear to practical life and industries, are the American methods, according to the Warden of Bradfield College, far ahead of our own. But while acknowledging this, even he is far from assigning American industrial progress to this sole cause. One commissioner, Professor H. E. Armstrong, cordially damns the whole system or want of system. His hearty growl has a curiously familiar ring. But what clearly has impressed every member of the Commission is the enthusiasm for education—the individual scholar, even in the primary school, realizes that education is essential for material success, realizes its financial value and works with enthusiasm; the teachers, as a body, from the school "marm" to the university professor, are equally enthusiastic; the heads of industrial concerns, great and small, appreciate fully that the educated employée is a more profitable article than the half-educated: the millionaire lavishes his money upon educational institutions, holding it to be the best spent when spent thus. The *material* afforded to the scholar is often defective—too great a smattering of many things, too little thorough grounding in any one subject—the *spirit* in which it is received is beyond praise. It is the attitude towards education, not the education itself that is of importance. Nor will it be by any extensive change in the modes of teaching that Great Britain will win up to the States, but by a change of heart; by the individual and general realization of the material, monetary, value of higher education. Those in Great Britain may have read with a feeling of disdainful superiority R. L. Stevenson's biting description of the Muskegon Commercial Academy where they had "tickers" in direct connection with the Chicago exchanges and the boys might elect for "wheat" or "hog products," "industrials" or "railways"; where each week the parents were debited with so much paper advanced to their young hopefuls and the relative standing of the boys was determined by the amount of paper and chips they acquired from, or lost to each other, during the course of the term. Yet this picture is but the carrying to its logical conclusion of the more materialistic tendencies of American education. And the commissioners seem to find these laudable. "Better," they would say, "love education as a means to an end than not at all. When a people is educated it will surely gain a higher outlook and come to love education for itself."

The two commissioners deputed to report upon medical education were Dr. Gaskell of Cambridge and Dr. Rose Bradford of University College, London; Dr. Gaskell upon the teaching of primary subjects (anatomy and physiology), Dr. Bradford upon instruction in the final subjects. It is impossible for us to give their reports in detail. For

full abstracts we would refer to the British Medical Journal of April 23rd. "To my mind," says Gaskell, "two of the most striking points about the laboratory instruction of all kinds in the States is the energy and activity displayed by the teachers; their constant endeavour to do their utmost without sparing themselves, and the determination of the students to be taught. I do not think it is only because the practical work counts in the final examinations that they attend and work steadily, but because they want to get their money's worth. They have come to the university to be educated for the medical profession, and the stimulus of want of means spurs on a large number, with the net result that the class as a whole attends well, works well, and soon becomes thoroughly interested in what must interest everyone—the discoveries of science." And says Rose Bradford, in his final paragraph—"to sum up the general impression it may be said first, that the general enthusiasm of the teachers and the students was one of the most striking features of my visit."

With regard to the methods of education in anatomy and physiology, Gaskell points out that there is no common method, that this is a period of unrest and uncertainty, a period of transition; each school is experimenting, striving to work out its own salvation and to develop methods which shall be neither German nor Scotch, but American. Like Bradford, he points to the passing of the didactic lecture and, with him, doubts whether this is not, in large measure, a mistake; he cordially recommends the "unit system" as carried out at Harvard and now at Toronto; he cannot recommend the extreme "concentration" method of learning a subject, which Harvard has introduced, but would prefer to spread the courses in physiology and anatomy over two years. He believes in the conjoint course of six or seven years for the academic and medical degrees—the method, if we mistake not, first established by his own university of Cambridge—and he favours the taking into account, for determining the status of the student, of all the work done during the term.

A serious weakness throughout American schools, in his opinion, is that the democratic idea assumes an equality in the students and therefore the same instruction is given to all,—the same lectures, the same recitations, the same laboratory work; there are no "honours courses," properly so-called, for the more promising students and, we may add, the man who scrapes through on a minimum of knowledge, gains the same label from his university as does the head of his year; there are no "honours degrees." All are supposed to go the same pace, which cannot, therefore, be the pace of the quickest; so that if the system may mean, and he believes does result in, the levelling up

of the lowest class, it must at the same time mean the levelling down of the highest class.

Rose Bradford praises the wonderful laboratories and their equipment in the leading universities; the great development of practical teaching in non-clinical subjects; the admirable systematization of the instruction given; the scientific investigation of disease by the student in the clinical laboratories. As a pathologist, he approves the introduction of bacteriological teaching early in the course, together with the frequent custom of giving unknown sections and organisms to identify, and, as a teacher, regards the records carefully kept of the students' work during the term as thoroughly worthy of imitation.

We have given Dr. Gaskell's adverse criticism along with the favourable, for it applies to Canadian equally with American schools, and, to see ourself as others see us is useful; we give Bradford's because herein Canadian methods, following those in vogue in the old country, are, we hold, much superior to American.

The absence of the clerk and dresser system in the hospitals he views most adversely. "In most American medical schools there are no student clerks or dressers, and the work is done by 'internes,' who may be said to correspond to house physicians and house surgeons. The student may visit the wards with his chief for the so-called 'ward-walk' or else for systematic instruction under the charge of instructors and assistants of various orders; and all these periods are strictly limited to a certain but variable number of weeks. Apart from Canadian hospitals, the Johns Hopkins Hospital at Baltimore was the only one in the States where the system of clerks and dressers was in vogue.

"(The) two points—on the one hand the limited period of service of the visiting and teaching staff, and, on the other, the absence of the clerk and dresser system—were those that most impressed the English teacher as indicating the main points of difference in the relations of the hospitals to the teaching medical school.

"Many of the American teachers are alive to the advantages of clerks and dressers, but they point out that, under their system the students get the practical acquaintance with diseases subsequently, during their period of office as internes, at a time, moreover, when they are more fully capable of making use of the opportunities afforded them. In the English system the student becomes a clerk or dresser at a time when he knows little or nothing of medicine or surgery, and thus, they argue, the great opportunities afforded them are, to a considerable extent, wasted. * * * All students cannot possibly become internes, and thus a number of men must start in practice without the advantage that the daily life in the wards in contact with disease

imparts. I was informed upon numerous occasions that about half the students in the leading medical schools become internes subsequent to graduation, either in hospitals attached to their own schools or in some other city and provincial hospitals (Surely this is a generous estimate!); so that at least fifty per cent. of the students not only graduate, but pass into practice without this invaluable experience."

It is only natural that in this review of the leading medical schools, the Canadian, being based largely upon the English model, receive little comment. Dr. Bradford notes with apparent approval that at McGill the chemistry for medical students is under the charge of a special professor of chemistry, who teaches the subject from the standpoint of medicine. As he is not only a chemist but also a graduate in medicine the objects of the medical student in studying chemistry are steadily kept in sight throughout the course. He notes similarly that in Toronto the Professor of Medicine compels each student in the course of his curriculum to make at least twenty examinations of sputum, blood, stomach contents, etc., and to record the results. Dr. Gaskell details the curriculum of the conjoint course at Toronto, and gives also the earlier established special combined course at McGill. Comparing them, the Toronto curriculum appears to us the better.

Concerning Canadian institutions, other than medical, Principal Reichel more particularly makes some interesting remarks. Thus of the Guelph Agricultural College he states that at other agricultural institutions throughout the States he was strongly urged not to leave without seeing it. More than one expert described it as the highest type of agricultural college upon the continent—"the Mecca of American agriculturists"—and his remarks upon its methods and courses are most laudatory. Of Queen's University at Kingston he says: "Its whole life and tone recall to me the Scottish academical ideal of plain living and high thinking. Of all the educational institutions I visited upon the American Continent, none left upon me so strong an impression of doing high class work with scanty resources." At McGill, the Science and Applied Science courses most impressed him and a list is given of graduates of the school of applied science who are now heads of great industrial concerns. "The whole institution leaves a strong impression of academic statesmanship and power of growth," and he quotes as the most remarkable instance met with by him of the appreciation by great industrial undertakings of university education, the department of railway engineering now being established in McGill by the Canadian Pacific, Grand Trunk and other lines running into Montreal.

THE PRELIMINARY QUALIFICATION.

The wearying controversy about the requirements which shall be demanded of students about to begin the study of medicine is upon us again. Ten years ago we thought the thing was at an end, when the possession of a Bachelor of Art's degree was declared to be a sufficient qualification, and that conclusion was only arrived at after a struggle lasting over three years. Not twelve months ago the question was opened up again by a proposal, that nothing less than the *cours classique complêt* should be accepted. That proposal originated within the council of the College of Physicians and Surgeons, but it was quickly though graciously abandoned, and all were duly thankful.

The controversy has now been transferred to the legislature, by Dr. Lacombe, who has introduced a measure intended to nullify all past enactments, and to compel all students, whether holders of degrees or not, to conform to one standard of examination. All parties to the discussion agree that the standard should be high; the higher it is, the better all will be pleased. The question turns upon the nature of that standard. Each section of the community has arrived at the conclusion that a certain system of education is the most suitable to its nature, temper and character, and it has arrived at that conclusion by a long series of events, which go far back in the history of the race to which it belongs.

French-Canadians believe that the thing for them is classics and philosophy. The English believe that the thing for them is literature at large and a keen perception of the facts of life. To their practical and experimental temper, classics is scholasticism and philosophy a mediæval survival. We do not undertake to say which is best, any more than we should attempt to decide which is better, a fish or a dog.

But we do undertake to say, that there is no power which shall compel us to adopt a view of education, which is alien to our habit of thought. We are equally resolute that we will not attempt to force upon others an acceptance of the views which we hold. That is the thing which the Legislature of Quebec is attempting to do, to compel our sons, if they would practice medicine in their own country, to engage in a course of preparation which we believe is not only useless but harmful.

It is not that we have any objection to that form of theological teaching, but we hold that education and theology are not by nature indissoluble the one from the other. Is it then the intention of our fellow-countrymen to enforce such a measure upon us? What would they think of the suggestion, that they should send their sons to a Wesleyan theological seminary, to the Diocesan or Presbyterian Theological College?

BY GRACE OF LEGISLATURE.

At the time of the present writing, the bill introduced in the Legislative Assembly of Quebec, by M. Taschereau, to permit some two hundred and sixty young men to enter the medical profession without having complied with the requirements of the law, has not yet passed into effect. The more carefully the bill is examined the more scandalous does it appear. It aims to commit an act of injustice to the profession as a whole, and to break faith with the large body of students who have actually complied with the stringent regulations now in force. It throws all government into disorder, and brings contempt upon the Legislature itself, by creating the impression that legal enactments are of no higher value than a whim or fancy, which may be cast aside when the mood has passed.

A feature of the controversy which has not escaped notice is the ranging together on the one side of the French and English members of the profession. A majority of the students of Laval have memorialized the Premier against the bill. A meeting of the physicians of the district of Montreal, chiefly French, was held at Laval, and a resolution in the strongest terms was adopted condemnatory of the bill. The Medico-Chirurgical Society, chiefly English, pursued a similar course, and sent a deputation to Quebec jointly with La Société Médicale to oppose the provisions of the measure.

If this bill become law, the whole question of medical education will have to be taken up anew, and with all the forces of intelligence, French and English, upon one side, in opposition to the forces of ignorance, which have their seat of election in the legislature, it is easy to foresee what the result will be. It is intolerable in a civilized community, that a large profession, which has for its chief concern the welfare of the public, should have to devote so large a part of its energy in defending the people against the vagaries of their own legislators.

Attention is again directed to the Second Congress of French-speaking Physicians, which will be held in Laval University on the 28th of June. The congress is open to physicians speaking other languages than French; indeed, they have been invited to share in the deliberations. The experiment is novel and sure to be interesting.

Dr. J. T. Halsey, assistant professor of pharmacology in the Medical Faculty of McGill University, has resigned that position to join the faculty of Tulane University in New Orleans, his native city. Dr. Halsey came to McGill, well equipped for his work by foreign study and by natural aptitude. The experience he has had since and the success

he has met with will make him a valuable addition to this prosperous southern school.

The Ontario Medical Library Association, the Clinical Association and several other medical organizations have decided to establish a club in Toronto for the use of the profession. The Thorne residence, 9 Queen's Park, has been secured, and will be turned into a clubhouse and library. It has been felt for some years that such a social club would be most desirable, and it is expected that the organization will have a large membership, resident and non-resident.

The Provost, trustees and medical faculty of the University of Pennsylvania have issued invitations to the opening of the new medical laboratories for the 10th of June. The invitation is accompanied by a complete description of the noble building and equipment for the teaching of pathology, physiology and pharmacology. There is also a historical sketch of the teaching in the faculty since 1765, which well illustrates the progress of medical education in the two past centuries.

The civic hospital for Protestant contagious diseases is not dead; it is only asleep. A site has been secured, a certain amount of money has been promised and plans are in course of preparation. That is something, and in two years it is probable that the institution will be open for the reception of patients. Two years is not a long time in the history of the race; it is very long in the life of a child suffering from scarlet fever or diphtheria. The hospital for French patients is doing better and construction is well under way.

The Taschereau bill introduced into the Quebec legislature has been passed after severe amendment. As matters stand now, holders of university degrees in medicine will be permitted to give evidence of preliminary qualification at any time, either by presentation of diplomas, or by passing an examination. This, in short, abolishes the four years' interval between the time of passing the examination and receiving the license to practise. The bill introduced by Dr. Lacombe to destroy the value of the Bachelor of Arts' degree as a qualification has been dropped.

The Royal College of Physicians and Surgeons of Kingston is to be revived, with Senator Sullivan, one of the charter members, as president. This corporation has a royal charter, issued in 1866. Since the Queen's Medical College resumed its relation with Queen's University the Royal College has been dormant. It is now proposed to

revive it and utilize its examining powers in granting fellowships and degrees. This degree can be secured on examination, and by a thesis by doctors of five years' standing. Since 1892 the Royal College has conferred one or two degrees, but now it is proposed to thoroughly reorganize it.

The Montreal League for the Prevention of Tuberculosis has issued through the Board of Health a series of five leaflets dealing with the various aspects of the disease. The subjects are: What is Tuberculosis; How to avoid contracting Tuberculosis; How persons suffering from Tuberculosis can avoid disseminating the disease; How employers of labour may assist in preventing the disease; The predisposing causes of Tuberculosis ,and the regimen of life for those suffering from the condition. The whole ground is well covered, and the information is conveyed in temperate language. The League has also concluded arrangements with the Board of Health to disinfect every house in which a death from tuberculosis has occurred.

Reviews and Notices of Books.

A System of Practical Surgery. By Prof. E. von Bergmann, M.D., Berlin; Prof. P. von Bruns, M.D., Tübingen; Prof. J. von Mikulicz, M.D., of Breslau. Translated and edited by William T. Bull, M.D., Professor of Surgery, College of Physicians and Surgeons, Columbia University, New York, and Walton Martin, M.D., Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Vol I. Surgery of the Head. Lea Brothers & Co., New York and Philadelphia, 1904.

The first edition of this System of Surgery appeared in Germany during the years 1900 and 1901, and was at once recognized as a notable work. Its appearance was immediately followed by translations into Spanish and Italian, and its first edition was in such demand that the earlier volumes were out of print before the later ones came off the press. The edition is made up of four volumes, and it is the second edition, carefully revised and brought thoroughly up to date in regard to literature and new matter which forms the basis of the present translation. The work has been done by the collaborators with great fidelity and thoroughness. They have brought to their task keen enthusiasm and wide surgical experience, enabling them to add judicious references to the methods of practice which are preferred by English and American surgeons, and they have increased the number of illustrations by drawing on the material found in recent German literature.

This system places before English readers one of the most comprehensive and highly esteemed works on surgery yet published. The first volume deals with the head, face and jaws. The chapter devoted to injuries and diseases of the brain and cranial nerves is of very great importance, and contains an account of Kocher's valuable experimental work elucidating the complex subject of cerebral compression. This subject restricts the term concussion to those momentary periods of unconsciousness due to temporary anæmia; if the unconsciousness is at all prolonged, there has occurred either a minute or gross lesion of the surface and of the smaller vessels. The chapter on Cleft Palate, and the diseases of the jaws are well done, and the illustrations serve their purpose remarkably well.

All the articles are lengthy, but full of interest in the handling of details, and the work as a whole is deserving of the highest commendation.

Since the previous writing the second volume has come to hand. It deals with the surgery of the Neck, Thorax and Spinal Column The contributors to it are v. Argerer, v. Bruns, Erhardt, v. Eiselsberg, Henle, Hofmeister, Jordan, Kummell and Riedinger. A careful examination of the book entirely confirms the favorable opinion which was formed by a reading of the first volume.

Clinical Lectures on Diseases of the Lungs and Heart. By J. A. Lindsay, M.D., F.R.C.P. (Lond.), M.A. London, Baillière, Tindall & Cox. Toronto, J. A. Carveth & Co., 1904.

Practical clinical lectures should, in order to justify their publication, be such as to supplement in one way or another the best text-books we have. They should deal with special problems not easily included in an ordinary work of a general character, and by their classifications of causes, symptoms and differential diagnoses, by their suggestions as to special lines of treatment and their broader considerations of prognosis, give valuable aid not alone to the student of medicine, but equally so to the practitioner. The book under review has carried out this plan in a most commendable manner, and we find various medical problems treated with care and thoughtfulness, and conclusions drawn which are based on a wide experience or at all events a due regard to the local statistics. The chapter on the interpretations of history in disease is perhaps more suited to the senior medical student, as are also the considerations of methods of physical examination. Many other subjects, however, cannot but be of great interest and usefulness to all practitioners and teachers of medical students, and we are indebted to the author for careful (even though perhaps not very detailed) classifications of causes and symptoms of thoracic disease. The prognosis of pulmonary phthisis is carefully and sanely considered and there is an interesting chapter on

some of the Rare Forms of Pulmonary Diseases. The author is guarded in his considerations of prognosis, which quite accords with the views of one of our greatest American authorities, who believes that "we know nothing whatsoever of the prognosis of pulmonary tuberculosis." In the treatment of heart lesions we would like to have seen more consideration for the value of venesection in treatment. The difficult question of prognosis in cardiac disease is treated with judgment and detail, and is a valuable *exposé* of the subject. We believe that all practitioners would do well to possess a volume which is so essentially practical in its object.

Physical Education by Muscular Exercise. By Luther Halsey Gulick, M.D., Director of Physical Training in the Public Schools of Greater New York. Philadelphia: P. Blakiston's Sons & Co. Toronto: Chandler & Massey.

This book is unique in the literature of Physical Education, in that it is a series of reflections on the various questions that go to make up this many-sided subject, a sort of "common-place book," in which the ideas are far from commonplace.

Beginning with such topics as exercise and evolution, city life and exercise, school life and other special occupations, the writer goes on to the physiology of exercise, basing his conclusions on the best work done recently on the subject.

The difference between automatic rhythmical exercise and that requiring concentrated attention is well shown, and throws much light on the vexed question of gymnastic drills to music versus Swedish gymnastics to command.

The physiology and chemistry of muscle and nerve fatigue are analysed, and specialization in training is discussed and its limits indicated. The general laws for prescribing exercise to a patient are formulated under the title of Dosage, while a chapter entitled Materia Gymnastica, reviews the resources of the gymnasium and the relative merits of the better known and more commonly practised games and sports in a way that will be of the utmost value to the medical practitioner whose advice is so often asked.

The German, Swedish, English and Delsarte systems are passed in review and the contributions to physical training by Dr. Dudley A. Sargent, C. W. Emerson, and the Y. M. C. A. training schools are described and discussed.

Altogether it would be hard to find a book of four times its bulk that would bring together and elucidate the present day knowledge on physical education in all its varied aspects with such thoroughness as has been done in the sixty pages of this little volume.

A Guide to the Clinical Examination of the Blood for Diagnostic Purposes. By Richard C. Cabot, M.D. Fifth revised edition. New York: William Wood & Co. Toronto: Chandler and Massey, 1904.

The new edition of this well-known text-book on blood examination contains much of interest to the clinician. During the past two or three years attempts have been made to obtain a rapid method of fixing blood films, so that stained specimens could be examined immediately. The older method of fixing by alcohol and ether required several hours' immersion in addition to the employment of heat and the use of special apparatus. Jenner introduced the use of methylic alcohol as both a solvent for the stains used and a means of fixing blood films. Leishman improved and simplified the method of using this stain and Wright's modification known as the "L. W." stain, is the one recommended by Cabot as giving better results in his hands than any of the older stains. The whole process does not require ten minutes, and according to the author this stain is the best, not only for the red and white cells, but also for the malarial plasmodium. Three excellent coloured plates are introduced depicting the colouring obtained by the use of this stain.

The plates in the former editions were done by Funke of Leipzig, those plates which are new in this edition are by Walker of Boston, and are even better. The description of the blood in the various diseases remains much as it was, though there are minor alterations worth noting.

In the classification of normal leucocytes Cabot makes only four instead of the usual six or more divisions. These are: polynuclear, lymphocytes (large or small, including transitional forms), eosinophiles, and mast cells. The work will be a standard for a long time.

A Text-Book of Physiology. By Isaac Ott, A.M., M.D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia: 137 illustrations; Philadelphia: F. A. Davis Co., 1904.

The author of this work is known to the physiological world chiefly through his researches in animal heat, especially in the localization of the heat centres. He tells us in his preface that the book has been prepared at the solicitation of his students of some years past; and that his aim has been to write an elementary book suitable to the medical student. According to Dr. Ott certain subjects, as electro-physiology, deserve for such a class but a scant treatment, while laboratory technique should be wholly omitted. Herein lies the strength and the weakness of the work. A book prepared specially for a teacher's own students cannot

be expected to suit equally well those given a different training or even those hearing another lecturer.

This work has only 137 illustrations, while those with which it must compete run into several hundreds. On the other hand, many of these bear on laboratory technique, one of those subjects which Dr. Ott thinks it well to pass over.

About this there will be much difference of opinion; but we think a large number of simple diagrams would have served a good purpose.

The work is of moderate size, 550 pages, and the type rather large. Seeing how often medical writers and journalists sin against the eyes we feel like giving special praise to the author and the publishers for this much neglected hygienic consideration. The book is all it claims to be, and for a large class of students it will serve a good purpose; but that it either will or should supplant any of the well-known and much-used works on physiology seems doubtful.

The commoner diseases of the eye—how to detect and how to treat them. For students of medicine, by Casey A. Wood, C.M., D.C.L., Professor of clinical Ophthalmology in the University of Illinois; and Thomas A. Woodruff, M.D., C.M., L.R.C.P., Lon., Professor of Ophthalmology in the Post-Graduate School, Chicago. C. P. Engelhard & Co., Chicago, 1904.

Surely of the making of books there is no end, and most especially does this apply to the smaller works, mainly introductory in character, which are offered to the student of medicine, when he first approaches the subjects of his curriculum. With the vast mass of material which has accumulated in the various departments of the practice of medicine the necessity of these so-called "compends" has become apparent.

In order to produce a book of this nature at once clear and yet not too condensed, a very careful judgment and a thorough knowledge of the subject matter are necessary, and Dr. Wood and Dr. Woodruff are to be congratulated on the success they have met with.

This little work in a very succinct manner puts before the reader the salient points of ophthalmology, and only in a few particulars is clearness sacrificed to brevity, as in the article on colour blindness where the tests might have been a little more elaborated.

The latest advances in diagnosis, treatment, and bacteriology are touched on and very clearly. The illustrations are numerous and very useful, but it is hard to see why a full page should be wasted on a catalogue illustration of a case of test lenses. No book has yet appeared which has not had its faults, but this one really fulfils the modest claims of its authors.

J. W. Stirling.

An Atlas of Illustrations of Clinical Medicine, Surgery, and Pathology, Compiled for the New Sydenham Society (a continuation of the Atlas of Pathology): Fasciculus xvii. (double fasciculus), being vi. and vii. of New Series: Xanthelasma and Xanthoma; Changes in the skin caused by arsenic; Pemphigus and its Variants; Fractures and Dislocations Miscellaneous: Plates, A. to O. and xcviii. to cxvii.

Fasciculus xviii. (double fasciculus), being viii. and ix. of the Clinical Atlas. Eruptions, etc., caused by arsenic. Plates A. to G.; Urticaria pigmentosa; plates cxviii. and cxxi. (coloured), plates E. to H. (without colour), and Illustrations of the phenomena of leprosy, plates cxxii. to cxxv. (coloured), plates I. to Z. (without colour). London, H. K. Lewis, 136 Gower Street.

The officers of the New Sydenham Society, for the year 1903-1904, are William Osler, Jonathan Hutchinson and Henry Power; the list of vice-presidents includes the names of the most eminent men in the profession, and the council is composed of physicians and surgeons who are easily first in the various subjects. This publication, the scope of which is indicated above, is worthy of so distinguished a company. The coloured plates have a remarkable fidelity to the various conditions represented and the photographic reproductions have the beauty of pictures.

The Practical Medicine Series of Yearbooks: Comprising ten volumes, issued monthly. Edited by Gustavus P. Head, M.D. Vol. IV. Gynæcology. By E. C. Dudley, A.M., M.D., and William Healy, A.B., M.D., March, 1904. The Yearbook Publishers, 40 Dearborn Street, Chicago.

Medical News.

BISHOP'S COLLEGE.

The thirty-third Annual Convocation of the University of Bishop's College was held on the 27th of May, in the Synod Hall. The address for the Faculty was delivered by Dr. F. J. Hackett, and the Degree of Doctor of Medicine was conferred upon the following graduates:—R. F. Barrett, Geo. P. Briggs, H. Byers, C. F. Crutchlow, T. T. Donnelly, F. J. Garraty, D. A. McGregor, J. J. McGovern, T. E. Watier, A. E. Wilson.

McGILL MEDICAL FACULTY.

The Governors of the University, on recommendation of the Faculty of Medicine, have made the following appointments:—Lecturer in Anatomy, Dr. R. Tait McKenzie; Lecturer in Physiology, Dr. A. A.

Robertson; Lecturer in Ophthalmology and Otology, Dr. W. G. M. Byers; Lecturer in Pharmacology and Therapeutics, Dr. J. W. Scane; Lecturer in Chemistry, Mr. J. R. Roebuck; Assistant Professor of Physiology, Dr .W. S. Morrow; Assistant Professor of Pathology and Bacteriology, Dr. A. G. Nicholls.

The examinations in medicine are now being held in Molson Hall; the fourth year clinical examinations are finished, with the exception of those for the Quebec Board. All examinations will be finished by June 3rd, and the Convocation will be held in the Windsor Hall on June 10th. The address to the students on behalf of the Faculty will be given by Dr. J. T. Halsey, who is about to sever his connection with McGill. The Valedictorian for the graduating class is Mr. J. L. Robinson.

MONTREAL GENERAL HOSPITAL.

The quarterly meeting of the Board of Governors of the Montreal General Hospital was held on May 17th. The treasurer's account showed the receipts for the quarter January, February and March, to be $34,598, a decrease of $5,237 from the corresponding quarter of last year; the expenditure has been $26,478, an increase of $135.

During the quarter 754 patients were treated to a conclusion. Of this number 69 died, making the mortality rate of ordinary hospital cases 6.6 per cent.

In the outdoor department there were 9,204 consultations, an increase of 244 over the corresponding quarter of 1903. The ambulance responded to 372 calls.

Dr. McCrae resigned as resident pathologist, and Dr. D. B. Gillies was appointed as acting pathologist. The term of Dr. W. G. Turner's engagement as medical superintendent expires June 1, and Dr. Roland P. Campbell has been appointed as his successor.

In March, eight nurses passed examinations and received diplomas, making a total of 222 that have passed through the training school.

HOTEL DIEU.

During the month of April, 200 patients were admitted, and 193 discharged; 28 deaths were registered. In the outdoor department, 460 new patients were entered. In the eye, ear and nose dispensary, 970 patients were treated; 88 major operations were performed.

The vacancy created by the death of Dr. Chartrand was filled by the appointment of Dr. L. W. Delorme as professor of practical anatomy. Dr. Delorme has been connected with the dissecting room for the last fifteen years, as demonstrator.

ROYAL VICTORIA HOSPITAL.

Monthly Report for April, 1904: Patients admitted, 273; discharged, 252; died, 18; medical, 87; surgical 119; ophthalmological, 27; gynæcological, 29; laryngological, 11; total, 273. Out-door department, medical, 806; surgical 419; eye and ear, 356; diseases of women, 110; nose and throat, 228; total, 1919. Ambulance calls 63.

WESTERN GENERAL HOSPITAL.

During the month of April, 48 patients were admitted, 43 were discharged, and three died. In the out-door department there were 663 consultations, of which 232 were medical, 79 surgical, 138 gynæcological, 47 eye and ear, 90 nose and throat, 29 skin and 48 genito-urinary.

NOTRE DAME HOSPITAL.

During the month of April, 152 patients were admitted, and 153 discharged. The patients at the out-door department were 1,591, and the ambulance calls 96.

Thirty-seven students have been granted the degree of Doctor of Medicine by Queen's Medical College: R. W. Bailey, M. E. Branscombe, B.A.; W. C. Brown, J. S. Carruthers, J. C Caskey, A. K. Connolly, T. J. Costello, E. W. Delong, A. C. Driscoll, A. D. Falkener, L. A. Ferguson, A. A. Ferguson, J. V. Gallivan, W. Gibson, J. J. Gillespie, J. R. Goodfellow, J. A. Graham, T. J. Gray, L. W. Hoppins, E. C. Kinead, A. J. Lalonde, G. C. Leach, B.A.; R. A. Lee, A. T. Munro, F. C. McCullough, H. A. McDonald, M. McGonigle, N. I. Pennock, Miss Victoria Reid, B.A.; E. J. Robinson, S. H. Rutledge, A. H. Singleton, B.A.; N. Smith, H. Tandy, B.A.; E. J. F. Williams, B.A.; C. S. Vanness, J. M. Young, B.A.

The Toronto Western Hospital has purchased the site of four acres on Bathurst street which has been held for five years under lease, and plans are now completed for an addition to the present accommodation. The hospital has now over 100 patients, and will then have beds for 150.

The American Medico-Psychological Association will hold the sixtieth annual meeting in St. Louis on May 30th and 31st, and it will continue during the 1st, 2nd and 3rd of June. Amongst the contributors from Canada are Dr James Russell, of Hamilton.

The twenty-fourth annual meeting of the Ontario Medical Association will be held in Toronto, in the new Medical Buildings, Queen's Park, on the 14th, 15th and 16th of June.

A by-law to prevent spitting on sidewalks and in public buildings and street cars was passed by the Council of the Corporation of the City of Toronto on the 11th of April.

The American Pediatric Society held the sixteenth annual meeting at Detroit on May 30th and 31st and June 1st.

Lord Strathcona has contributed a thousand dollars towards the new Royal Jubilee Hospital at Rat Portage.

Dr. W. W. Wickham of Tignish, Prince Edward Island, died at Ste. Agathe on the 13th of May after a year's illness from phthisis.

Dr. J. P. Chartrand, of Montreal, Professor of Practical Anatomy, Laval University, died suddenly on the 26th of April, 1904, in the 43rd year of his age.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

THOMAS S. CULLEN, M.D. "Tuberculous Stricture of the Ascending Colon with Sudden Total Obstruction of the Bowel; Perforation of the Intestine; Removal of the Cæcum and half the Ascending Colon; Recovery. *The American Journal of Medical Sciences*, March, 1904.

This interesting and unusual case shows the insidiousness of tuberculous disease, the rare, but possible, complication of a sudden total obstruction coming on without any previous symptoms of a definite lesion, and the practical impossibility of diagnosing the case from one of appendicitis. Though tuberculous ulceration of the intestine is relatively frequent, stricture of the lumen of the bowel is somewhat rare. In 1,000 autopsies on tuberculous patients intestional lesions were found 566 times, but in only nine was there a more or less definite stricture. The stricture is usually single, and is situated at the ileo-cæcal valve, when multiple they are almost invariably found in the ileum. The chief points in the histology, clinical history, diagnosis, and treatment are briefly reviewed, followed by a description of the case.

As regards the diagnosis of a purulent condition, Charles E. Simon lays much stress upon the frequent absence of eosinophils where pus is accumulating, and thinks this sign is of more practical importance than the degree of leukocytosis. The writer claims very

gratifying results in cases where the pelvis has been filled with pus by loosely packing the pelvis with gauze so as to prevent the intestinal loops from dropping down and becoming adherent or kinked in the pelvis and so causing obstruction.

Joseph H. Barnham, M.D. "Suture of the Omentum to the Parietal Peritoneum (Epiplopexy) for Ascites. *Medical News*, March 5, 1904.

The history of cirrhosis of the liver with ascites is usually progressive with fatal termination in nearly all cases. In old cases of this disease adhesions are often formed between the omentum and parietal peritoneum containing many large veins which show an effort of nature to establish a collateral circulation and relieve the congested portal system. The writer's case presented the usual symptoms of a fairly well advanced case, and at the operation about 6½ gallons of a slightly blood-stained fluid were removed. She had never been tapped before. The peritoneum was greatly engorged, liver slightly nodular and about half its ordinary size, and the omentum adherent to the parietal peritoneum on each side, the adhesions being very vascular. The middle portion was sutured to the abdominal wall on each side of the incision, and a gauze drain inserted. Large quantities of fluid came away, and the edema of the feet and legs disappeared during the first two days. The general condition was always satisfactory and improvement marked. About one year later a pleural effusion formed and five quarts of bloody serum were withdrawn. Some observers think that the ascites of liver cirrhosis is due largely to blood changes secondary to the liver congestion. If this be so and the pleuritic effusion in the case was the result of such changes, the absence of a recurrent ascites speaks strongly for the operation. The possibilities of this operation are limited by the liver condition. In cases where the cells of this organ are so destroyed that its functions are lost, the result is fatal and the operation necessarily a failure. It is only in the less common cases where the destructive processes can be arrested that we can hope for a cure. In others, where the degenerative processes are slow the patients may be relieved. He is against curretting or irritating the surface of the liver and suturing it and other solid organs to the abdominal wall, and regards it as a more dangerous procedure, attended by a high mortality, and not likely to secure the desired effect. Simple suture of the omentum with gauze drainage gives the best results with the minimum amount of danger. The case shows the following points of especial interest. The presence of vascular adhesions showing the effort of nature to

form collateral circulation; the subsequent pleural effusion with no ascites points strongly to good collateral circulation for the portal system. The marked improvement in the patient's general condition shows better functioning of the liver and intestinal organs after the operation.

W. L. B.

Dr. H. Kuemmell. "The Newer Methods of Examination in Cases of Kidney Disease." *Arch. f. Klin. Chir.*, Bd. 72, Heft. 1.

In this subject Kümmell, of Hamburg, is probably the most experienced man in Germany, and his conclusions deserve attentive consideration. Needless to say, he is a firm believer in the value of the finer diagnostic methods—when used by the expert and with judgment. But it is the duty of the surgeon to become expert and to acquire judgment.

In brief, his conclusions, based on several hundreds of cases, are as follows: Renal calculi are demonstrable (by the X-rays) in all cases, if you only know how to do it. Careful posturing of the patient, a soft tube, the taking of a number of plates, in each of which a shadow is found at the same place, and the possession of a trained eye are essential. (For more detail the interested reader is referred to another article in *Beiträge zur Klin. Chir.*, Bd. 37, Heft 3.)

Catheterization of the ureters is the only absolutely certain way of getting "kidney urine," and it is used by Kümmell as a normal procedure. The various instruments for intravesical separation of the urine (Newmann, Down, Luys, Cathelin) are not perfectly reliable, but are useful in exceptional cases, where the other is impossible. To determine the degree of kidney function, Kümmell has used all the various methods lately advocated: methylene blue, phloridzin, electrical conductivity, and cryoscopy of the urine, but especially of the blood. The latter he regards as the best, and has used it most. He believes one is justified in laying down the law, "that with a normal molecular concentration of the blood, there cannot be present any disturbance of general kidney function; that the latter is, in the great majority of cases, the result of a bilateral kidney lesion; and that a heightened molecular concentration of the blood is a positive indication of bilateral disease.

The usefulness of this law in its application both to prognosis and to the determination for or against operation is demonstrated by Kümmell in a large number of cases. Where cryoscopy of the blood shows a heightened molecular concentration, nephrectomy is not permissible, for there is present disease of the other kidney. In a statistical table including 168 kidney operations of his own, 70 of which were not in-

vestigated according to these finer diagnostic methods, and 98 of which were, Kümmell demonstrates the practical value of these methods, in that the better selection of operable cases allowed has reduced the mortality of 28 per cent. in the 70 cases to 8 per cent. in the 98 cases. His nephrectomy mortality he has reduced to 4.8 per cent.

Gwilym G. Davis, M.D., M.R.C.S., Eng. "The Operative Treatment of Trifacial Neuralgia. With report of Case of Removal of the Gasserian Ganglion for Recurrence following Intracranial Neurectomy of the Superior Maxillary Nerve." *University of Pennsylvania Medical Bulletin*, April, 1904.

The patient was a man aged forty-nine, in whom the disease had existed for seven years. The attacks were typical. Two and one-half years before intracranial neurectomy of the superior maxilliary nerve was done, the infraorbital nerve had been excised and relief gained for a year. A similar operation was performed six months later, but with only a few days of relief. He then came under the writer's care, who decided to operate upon Meckel's ganglion by the Carnochan method. The previous operations on the infraorbital nerve made it impossible to utilize it as a guide to the ganglion and complete removal could not be accomplished. This operation gave relief for three or four months, and then the intracranial neurectomy was performed. This operation gave relief for a little over two years, when removal of the ganglion, after a modified Hartley-Krause method was performed. Eight months after this operation the patient was free from any return of the symptoms, but the eye had to be enucleated. There was temporary paralysis of the third and fourth nerves and persistent paralysis of the sixth.

Van Gehuchten, a translation of whose paper on this subject appears in the same issue, believes that the tearing out of the peripheral branches is a perfectly rational procedure for the permanent cure of the neuralgia, but in the case reported the superior maxillary nerve was thus removed and yet two years later was found to be completely regenerated and was removed with the ganglion. Reference is made to the favourable result obtained by Frazier and Spiller in their case as well as to five cases of Abbé's method which have remained cured for periods of six months to six years. The writer favours ligating the external carotid, but does not advocate removal of the zygoma, claiming sufficient room can be obtained without doing so, and the ganglion as readily removed by the use of properly designed elevators.

W. L. B.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND W. F. HAMILTON.

TYPHOID FEVER.

Sir WILLIAM BROADBENT.—"Enteric or Typhoid Fever."

Dr. F. M. SANDWITH.—"Enteric Fever, with special reference to Egypt."

Dr. ANDREW DUNCAN.—"Enteric Fever in India."

JAS. CANTLIE, M.B.—"Typhoid Fever in China."

Dr. H. H. TOOTH.—"Some reflections on Enteric Fever infection in Camps."

Dr. GEO. NEWMAN.—"Channels of Typhoid Infection in London."

Dr. H. E. LEIGH-CANNEY.—"Ætiology and Prevention of Enteric Fever."

Dr. CHAS. BOLTON.—"Rigors in Typhoid Fever apart from any recognisable complication."

Dr. A. E. WRIGHT.—"Anti-typhoid Vaccination I."

Dr. A. E. WRIGHT.—"Anti-typhoid Vaccination II."

Sir JOHN W. MOORE.—"The Treatment of Enteric Fever."

Dr. HERBERT P. HAWKINS.—"The Treatment of Enteric Fever."

Dr. HECTOR MACKENZIE.—"On the importance of an early diagnosis of perforation in Typhoid Fever."

Dr. THOS. MCCRAE.—"The Treatment of Typhoid Fever in Johns Hopkins Hospital."

Dr. R. TANNER HEWLETT.—"Paratyphoid Fever." *The Practitioner*, London, January, 1904.

Dr. CLAUDE B. KER.—"The Diagnosis of Typhoid Fever." *The Practitioner*, March, 1904.

WELLS and SCOTT.—"The Pathological Anatomy of Paratyphoid Fever." *The Journal of Infectious Diseases*, January, 1904.

From time to time we have welcomed the *special* numbers of *The Practitioner* devoted to a careful study of the more important diseases acceptable alike to students of medicine the world over. The January number is devoted to Typhoid Fever—a subject of universal interest and so broad as to require space for a few articles in the February and March issues, which are also before us. The introductory paper by Sir William Broadbent carries one in a general way over the subject matter of the various contributions, here and there comparing notes made by the different writers.

As we have seen from the list of papers, we are afforded a view of the characteristics of the disease under discussion, as it manifests itself in Egypt, India and China. Dr. Sandwith, while admitting that there

is apparently some immunity to typhoid fever in tropical and subtropical countries, clearly shows that the view that the adults are immune because most Egyptians suffered from the disease as children is erroneous. The evidence adduced upon this point is derived from seven hundred autopsies upon children under 5 years of age, from amongst the poorest of the Egyptians; from clinical evidence in several hospitals and from the serum test. There is found no support for this theory. Typhoid fever is seldom absent from the European hospitals in Egypt, while in the Egyptian Government hospitals it is rare indeed. Six cases in twelve years were recognized among 8,752 patients in the medical ward. In 1,935 autopsies not a case of enteric fever was met with. In the army, in contact with Europeans the young native recruit becomes liable to enteric. The view is expressed that Egyptian town dwellers suffer more from enteric fever than they did 15 or 20 years ago. In some respects the views concerning enteric fever in India are the same as those in Egypt. It was held, some years back, that enteric fever did not exist in India. It became increasingly prevalent, for obvious reasons, after Surgeon-General Sir Anthony Home "ordered that all cases of fever, in which at the necropsy ulceration of the intestines was found, were to be returned as enteric fever." The natives have typhoid, although previous to Ewart's writing in 1856 they were said to be free from it. Abundant proof of this statement has accumulated since that date.

The great and increasing prevalence of enteric fever in India is due:

(1) To the constant arrival in that country of men (for the army) at an age most predisposed to the disease.

(2) To the arrival of these men in a country whose soil must be everywhere impregnated with the poison of enteric fever.

(3) To the multiple means of access of the poison to the men especially predisposed to it by their age and recent arrival.

In China the adult native is seldom attacked by typhoid. It is as elsewhere common amongst Europeans, dwelling or travelling in China. Accurate information is unavailable. Dr. Cantlie sees in the method of preparing food a protection against the disease. The water might readily bear the disease, but Chinese seldom drink cold *water*. They drink tea and congee water, i.e. the water rice is boiled in. The Chinaman does not drink milk. The Chinese children, if unable to nurse, are given congee water. Vegetables are also cooked before being eaten. It has been observed that while Europeans in China are more frequently victims of typhoid fever, the mortality among the natives attacked is very great: Chinese 57.45%; Europeans 12.08%. The system of direct fertilization of the land by sewage-material

might be considered as dangerous to the community. Dr. Cantlie shows that the fermentation which all excreta undergoes in cemented cesspools before being used as fertilizers, renders the sewage practically innocuous.

The causes in these different countries are those which are active in the spread of this disease the world over:—Water, milk, ice cream, oysters, salads and uncooked vegetables, flies, sandstorms, dust, and insanitary houses. The course taken by disease in those in India and Egypt and China differs in some particulars from that familiar to us. In India there is marked prostration and hebetude with delirium. This is common with other diseases. The temperature chart is rarely typical either in native or European. The eruption is exceptional among the Chinese. The symptoms are less pronounced than among Europeans.

In discussing enteric fever infection in camp life, Dr. Tooth points out that in army life, sand storms and flies enter largely into the question of spread,—that the conditions of life in tents, accommodating twelve men or even more, may favour direct infection, especially as one of the twelve, for several nights, may be the subject of undeclared typhoid fever, and that diarrhœa from any cause, so common in camp, increases the susceptibility to the enteric bacillus.

Dr. Newman in considering the subject of Channels of Typhoid Infection in London, starts out by assuming the comparative improbability of typhoid fever being water borne in that City, and while granting that it is not asserted that water-borne infection never occurs in London, he suggests that it is by no means the commonest channel.

"Amongst a wonderful variety of suggested means of infection two emerge and, year by year, occupy a more prominent place in the records. The first is infection by contact, with persons or belongings of previous cases, and the second is infection by the conveyance of the virus in food, particularly shell fish." A satisfactory amount of evidence is advanced in support of both these views as they apply to the world's metropolis. And the prevailing conditions there are not widely different to those elsewhere in respect of the spread of disease.

From Dr. Canney's comprehensive paper on the Etiology and Prevention of Typhoid Fever, a portion of his summary must suffice. "The human body is the natural habitat of the bacillus in its virulent form..... The chances of its disappearance from the community are very great if its wide diffusion in its human host in epidemic form is prevented by protection of the liquid avenues..... from contamination."

"The growth of the typhoid bacillus takes place in the body of the typhoid patient practically exclusively. It is discharged with the

intestinal and urinary excretions and gains access to another individual through the mouth and stomach. Entry through the air passages is quite exceptional."....

"The theory that typhoid may result from the inhalation of putrid gases must be abandoned....."

Dr. Canney encourages the hope that in a reasonable time the disease may become totally extinct from the community, neighbouring communities and finally from the civilized world on the grounds, (1) that the growth, development and spread of the bacillus are practically limited to the human body; (2) that the saprophytic existence of the bacillus in various media, etc., is so short and precarious that with ordinary attempts at sanitation the incidence of the disease is enormously reduced, etc.; (3) the fact that when once a community is free from the disease for a short time it will, even in the presence of gross sanitary defects remain free indefinitely, or until such time as the bacillus is imported into the community.

Inoculation against typhoid is touched upon, but that part of our subject may be left until Dr. Wright's papers are taken up. The writer urges the most careful nursing of all cases of typhoid fever for the public good as well as for the patient's safety and recovery. If overcrowding, the case should be isolated.

Urotropine should be given towards the close of the illness and should be considered as essential for some days. A temperature normal for a fortnight, and urine free from typhoid bacilli, are the conditions in convalescents otherwise not requiring treatment, on which patients should be allowed out.

Dr. Bolton presents a case report of Typhoid Fever with rigors, and reviews the literature upon this subject. The patient, a nurse of 24 years of age, fell ill with the typical signs of a severe attack of enteric fever. On the nineteenth day of the fever, concurrent with an attack of diarrhœa and an intestinal hæmorrhage—blood in clots—she had an alarming chill, "the first of a series of twenty-one." The last occurred on the 63rd day of the disease, during what appeared to be an intercurrent relapse. The convalescence was uninterrupted. The patient left the hospital on the 115th day of the disease. The range of the temperature was from 97 2-5° to 107 4-5°. The only other associated condition, apart from hæmorrhage and diarrhœa, was a slight swelling of the legs and delirium. In his review of the literature, Dr. Bolton includes the various explanations, which clinicians have offered for this very exceptional feature in typhoid fever. They include intestinal irritation, toxic absorption occurring suddenly when the thermogenetic centres are impressionable; the substitution of rigors for delirium as

a convulsion may take the place of a rigor; thrombosis of branches of the mesenteric veins; pylephebitis; malaria; mental shock; use of antipyretics, etc. All the writers insist that rigors do not affect materially the prognosis.

Along with the consideration of typhoid fever in a series of articles, such as these, must be included that now well recognized condition described under the term para-typhoid fever. The two articles devoted to the subject are comprehensive, and summarize practically all that is known of it. In a retrospect of medicine, written some eighteen months since, this subject was taken up, but, considering the comparative newness of the work and its importance, a resumé is justifiable.

"With refinements in the technique of the clinical application of the agglutination reactions, together with the more frequent application of cultural investigation of the blood in typhoid and other febrile diseases, has come the observation of a distinct set of cases of typhoid-like character, that are caused by organisms intermediate between the typhoid and the colon bacillus." The process of differentiation which began with Sir William Jenner, who separated typhoid from typhus, has continued until we now consider typhus, and typhoid and Malta fever and para-typhoid as distinct diseases with different causes. The name para-typhoid appears to have been first used by Achard and Bensaude in 1896. The clinical features of cases of para-typhoid resemble those of typhoid so closely as to be indistinguishable without the Widal test. Doubtless the negative finding in cases clinically typhoid, together with the knowledge that an organism intermediate between the typhoid bacillus and the colon bacillus often infested the intestinal tract, led to the recognition of this new disease. The blood serum from such patients agglutinates both the A and B strains of paratyphoid. The disease in its occurrence is widespread, cases having been reported from England, France, Germany, Holland, United States, Canada, Philippine Islands and Cuba. It may be fatal and five cases such with anatomical findings have been reported. The summary of fatal cases as afforded by Wells and Scott, goes to show that paratyphoid infections are accompanied by changes quite different from those of typhoid, and there is but little to differentiate it anatomically from other septicæmias. The most constant change in the splenic enlargement similar to that in typhoid fever. Ulcers of the intestine have been found in only two cases, differing entirely from those of typhoid, and resembling those of dysentery. There was a practical absence of any alteration of Peyer's patches or of the solitary follicles. The mesenteric glands were almost unaltered. The liver in two cases showed typical focal necroses, differing from those of typhoid in not containing

endothelial cells. While the fatal cases, according to Hewlett, seem to have been all infections from the B bacillus, the organism isolated in a case of Wells and Scott belong to the A group.

Doctor Ker's contribution to the articles on typhoid fever, deals with the diagnosis, introducing the subject with the remark: "that it may be said with justice, that the only absolute proof of the existence of typhoid in a given case, is the isolation, in pure culture of the bacillus typhosus from the patient under consideration." The various general features considered under clinical diagnosis need not detain us. The value of the diazo reaction of Ehrlich, blood counts, isolation of the bacillus typhosus and the blood serum test are all carefully weighed. In respect of the diazo reaction, Dr. Ker remarks that its chief value is rather in its absence than in its presence. Excluding the eruptive fevers, miliary tuberculosis and pneumonia, a case giving the reaction is much more likely to be enteric than anything else.

The blood count has but little value although it is specially useful in the differential diagnosis from pneumonia. Yet it is to be borne in mind that in the early stages of the fever, there may be leucocytosis. The isolation of the bacillus typhosus is conclusive, but the technique required renders the application of the test impossible to the general practitioner. The conclusions drawn from the results of the serum test are briefly as follows:—

A positive reaction means that the patient has enteric fever at the moment, or has suffered from that disease recently. A negative reaction in the first fortnight of the fever means little or nothing. Should a negative reaction be still obtained after the third week is over, for practical purposes the idea of enteric may be dismissed.

The treatment of typhoid fever is discussed by representative men in Ireland, England and America. There is practically a uniformity of treatment in regard to the diet of these patients. The diet is regarded as of prime importance, and simplicity seems to characterize it. It should consist, according to these authorities, of milk, barley water, lime water, albumen water, whey and abundance of plain water. Dr. McCrae emphasizes two rules regarding feeding which may well be kept in mind: "Too little food rather than too much," and "more water."

In Dr. Osler's clinic the minimum of three litres of water per diem is the rule, and many patients take six or seven litres per day. The quantity of milk to be taken may be from 50 to 70 ounces for an adult, diluted with lime water, barley water or soda water.

Intestinal antisepsis finds its advocates among the Old Country writers, and it seems that turpentine is one of the best all round

remedies in typhoid fever. Those who advocate its use claim for it the actions of a diffusible stimulant, and of valuable antiseptic, relieving chest complications, controlling diarrhœa, checking meteorism, and staying intestinal hæmorrhage.

The salicylates of quinine and bismuth have been found useful. A note of warning is sounded against "routine and unreflecting purgation" at the beginning of the fever which seems so often to be followed by diarrhœa. The hydropathic treatment seems generally in favour as an antipyretic measure, but nowhere so highly advocated as in America. Dr. McCrae's claims for its use the saving of five lives in every hundred.

In enumerating the reasons for preferring the bath treatment, Dr. McCrae calls attention to the effects among others, upon the nervous system,—delirium lessens, muscular tremors diminish, the mental state clears. There is an increased excretion of toxines. The temperature is lowered, but this is not the main object of the baths. The pulse is better, the respiratory system is relieved of passive congestion, and the initial bronchitis is greatly benefited. In convalescence, seven to ten days of normal temperature elapse before the patient is allowed to sit up. Junket, custard, jelly and soft egg are given during the first few days of normal temperature in the first week, soft toast is added seventh to tenth day, scraped beef or sweetbread may be given. In view of the fact that the typhoid bacilli are excreted by the kidneys during the later stages of the disease, and even after the temperature is normal, urotropine is recommended two days in the week, for two or three weeks as a prophylactic measure.

There appears to be a growing objection to the routine use of alcoholic stimulants in typhoid fever. The complications of typhoid such as hæmorrhage, cholecystitis and tender toes have their appropriate treatments described in all the books. The success in dealing with intestinal perforation in typhoid depends upon the early recognition of the same, and prompt surgical interference, as well recognized in Dr. Mackenzie's article.

It seems only natural while much has been done with vaccination and serum therapy in other diseases that scientific men should seek to apply the same principles of treatment to typhoid fever, a disease so common in its incidence and so destructive in its results, especially among the armies in the field. The lack of space in this review forbid a lengthy discussion of immunity into which, among other aspects of the subject, Dr. Wright has fully gone.

An experience of six and a half years devoted to the careful study of typhoid inoculations has placed Dr. Wright in a position enabling him to speak with authority on this method of treatment. Recognizing

the fact that the vaccine employed for antityphoid inoculations must contain constituents of the bacterial protoplasm, he recognized at the same time the risk of disseminating the germ of the disease as well as the risk of communicating the disease in a serious form, should the practice of early preventive inoculations be adopted—cultures of living attenuated micro-organisms being employed.

It appears that the whole aspect of the question was altered by an observation of Professor R. Pfeiffer, who had in man obtained the specific agglutinative reaction to typhoid bacilli by the subcutaneous inoculation of a heated typhoid culture. Working upon the proposition that the typhoid culture preserves its vaccinating efficacy after exposure to a temperature of 60°C. its truth has been established experimentally, for according to Wright the inoculation of such cultures of ot typhoid bacilli induce in the organism agglutinating, bactericidal, bacteriolytic, and antitoxic properties to the blood.

Some objection to the use of the vaccine is found in the pain at the site of injection and the constitutional reaction which may follow. With a synoptical table of statistical records and a critical commentary on these statistics the subject of antityphoid inoculation closes. Dr. Wright admits that the inoculations have been done in most instances under many disadvantages and that statistics are at the same time permeated with error. Yet making due allowance for all this it appears. 1. that a *great saving of life has already been effected*: 2. the incidence of typhoid fever has been diminished by at least one-half in the inoculated; 3. case mortality has diminished; 4. there is evidence pointing to the persistence of protective effects during the second year after inoculation. W. F. H.

W. S. Thayer. "On the Late Effects of Typhoid Fever on the Heart and Blood Vessels." *Am. Jour. Med. Sc.*, March, 1904.

This study was carried out on a series of patients who had previously been treated for typhoid in the Johns Hopkins Hospital, and the writer presents strong reasons for accepting the view that typhoid is frequently followed by changes in the heart and arteries.

Numerous observers have pointed out the frequency of fresh gelatinous and fatty sclerotic plaques in the aorta and larger vessels of individuals dead of acute infectious disease, and similar changes have been induced by injecting pathogenic organisms into the vessels. An examination of the arterial tension by the Riva Rocci apparatus showed a distinct higher tension in old typhoids than in a series of healthy individuals taken under similar conditions, the result being clearly shown in a graphic chart.

The radial arteries were palpable in a large proportion of old typhoids; between the ages of 20 and 50 there were 46.8 per cent. in the typhoid series, as against 17.6 per cent. of normal cases, with palpable vessels. In addition to pulse changes, there was some evidence of cardiac enlargement in the old typhoids, when compared with the cardiac condition during the acute stage of the disease. As there is a tendency to cardiac dilatation during the acute stage, the enlargement following the disease is all the more significant. Well marked cardio-vascular changes were found in 10 of 182 cases following typhoid, and in these none of the usual causes were present for such a condition.

There is some evidence to show that patients in whom the pulse is rapid and irregular during the attack, or in whom a systolic apex murmur develops, are more liable to subsequent cardio-vascular changes. In such instance the subsequent blood pressure is higher than the usual post-typhoid blood pressure, and these cases were more frequently the subjects of subsequent cardiac disease.

Dr. Felix Hommel. "Ueber Pubertätsalbuminurie." *Deut. Arch. Klin. Med.*, Bd. 78, 541.

The writer distinguishes physiological albuminuria from that occurring at puberty, and gives the results of examinations of large numbers of young workers in two well-known factories in Jena. In both establishments the hygienic arrangements are excellent, and the employees are obliged to present themselves twice a year for medical examination.. The writer was thus enabled to examine 587 young people, and most of them were kept under observation for three or four years. Albuminuria occurred in 111 cases, or 18.9 per cent. of all examined. The albuminuria was, in most cases, decidedly intermittent in type, so that repeated examinations were frequently necessary for its detection. The quality of albumin was usually trifling, but occasionally showed as much as one-half to one per cent. Scanty hyaline casts and single fatty epithelial cells were sometimes found.

The cause of the albuminuria of puberty depends frequently on cardiac disease, especially on the juvenile cardiac hypertrophy of German-Sée.

Symptoms such as palpitation, a sense of pressure on the chest, shortness of breath on exertion, and objectively signs of enlargement both to right and left side, pulmonary accentuation and blowing systolic murmurs, were frequently noticed. Increased arterial tension and aortic accentuation also occurred. These signs, however, occur in a large proportion of cases without albuminuria, and the figures,

42.2 per cent., in which cardiac defects were associated with albuminuria, are not much greater than the 31.5 per cent. of cardiac defects without albuminuria..

Physical exertion plays an unimportant part in the albuminuria of puberty, as it is as likely to occur in the early morning as later in the day.

The differential diagnosis from organic renal disease is difficult, and can often only be made after careful and repeated examinations. Casts are regarded as in favour of organic disease, and also a quantity of albumin in excess of one per cent.

Joseph Lesperance. "The Soluble Ferments of Cow's Milk." *New York Medical Record,* April 20th, 1904.

Dr. Lesperance discusses the seemingly paradoxical fact, that an artificial mixture of albumins, fats and sugars, in the same proportion as when contained in natural milk will not sustain life beyond a limited period. He cites the experiments of Lunin in demonstration, and puts forward the view "that the enzymes or unorganized soluble ferments in milk are absent from the artificial fluids, or are destroyed in the various manipulations to which milk is commonly subjected in the course of its adaptation for the feeding of infants.

Dr. Lesperance says:—"The constituents which are lacking in sterilized milk, or, more properly speaking, are destroyed when the temperature of the milk is raised to 176° Fahrenheit, are the enzymes, those mysterious ferments which govern the equilibrium of the protoplasm." The experimental evidence is given very fully to prove that "bacteriology, in discovering the secretions of the microbes, brought these same thinkers back to the study of the secretions of the organic cells, and demonstrated that the two are identical, and that there is no biological difference between the constituent cells of our organism, and those minute cellular individuals, the microbes."

In conclusion, the author states: "Summing up the various researches and discoveries made in connection with cow's milk, we find then, that this milk contains numerous ferments. We have determined definitely the presence of trypsin and of pepsin, of the lipasic and oxidizing ferments, and of the glycolytic ferment. There is, moreover, reason to expect further discoveries in this direction, and this is not improbable when the extremely complex nature of milk is taken into consideration."

It is understood that Dr. Lesperance is working at the problem of how to retain these enzymes in preparations of milk. If he succeeds it will be a notable achievement and of very great practical value.

Society Proceedings.

OTTAWA MEDICO-CHIRURGICAL SOCIETY.

Final Meeting, May 6th, 1904.

Dr. H. B. Small, President, in the Chair.

The Ottawa Medico-Chirurgical Society closed its session for this year with a smoking concert held in the Grand Union Hotel, on Friday evening, May 6th. The president, Dr. H. B. Small, occupied the chair. A programme of speeches, recitations, songs and instrumental music was presented, among the contributors being Dr. A. J. Horsey, F. X. Valade, Thos. Gibson, J. E. Hanna, J. E. Klotz, H. W. Spence and — Robinson. Speeches were delivered by Sir James Grant, the Honorary President, by Drs. Valade, Parent, Lambert and Higgins.

In the course of his remarks Sir James Grant called attention to the fact that the originator of the Laryngoscope, Senor Garcia, had celebrated, on March 17th last, his hundredth birthday. A committee was nominated to draw up and forward to Senor Garcia a congratulatory resolution.

SOCIETE MEDICALE DE MONTREAL.

Meeting of 11th May, 1904.

Dr. Oscar Mercier, Vice-President, in the President's absence, occupied the Chair.

Dr. Francois DeMartigny presented two pathological specimens, the first a fibromatous uterus with a polypus attached to the fundus by a long pedicle; the second, an ovarian pregnancy. Having given the particulars of the cases he reported a case of Inguinal Hernia containing the appendix.

Dr. Harwood noticed with pleasure that Dr. DeMartigny had a second case of ovarian pregnancy in six months. But such cases, he thought, were so uncommon that they should be corroborated by a microscopical examination. The case of fibroids with polypus was interesting, but cancerous degeneration was not so common as Dr. DeMartigny seemed to emphasize. Dr. Harwood had examined many a case of cancer of the uterus without fibroids and vice-versa. Hysterectomy was the only treatment capable of assuring a permanent cure in cases of multiple fibroids.

Dr. Oscar Mercier recalled the case of a woman whom he operated upon for a large polypus, without interfering with the uterus, the patient being unable to undergo any further intervention. Two years later the patient died from a cancer of the uterus which had probably developed in a fibroid. A second case also came under his

observation, that of a polypus expelled through the vagina causing a compression necrosis of the vaginal walls. This patient has not been heard from since. Dr. Mercier also favoured hysterectomy in cases of fibroids on account of possible degeneration.

Dr. Harwood asked Dr. Mercier on what he based his opinion that the first patient had died of cancer developed in the degenerated fibroids.

Dr. Mercier replied, that such was his impression, though there had been no post-mortem.

Dr. DeMartigny thought Dr. Mercier's opinion the right one, for, as assistant of Drs. Pean and Delaunay, he had seen several cases of fibroids with a microscopical examination showing distinct cancerous degeneration. It was a rule in the International Hospital to have all specimens of uterus fibroids examined by the pathologist, and the report often was positive when the naked eye could detect nothing.

Dr. Decary was of opinion that it was very difficult to reach a positive diagnosis even with the aid of a microscope.

Dr. Dubé asked what course should a physician follow, when in presence of a woman who had passed the "change of life," and suffered from fibroids which otherwise did not inconvenience her.

Dr. Harwood believed that if no trouble existed the patient should be left alone.

Dr. DeMartigny said such cases were embarrassing, and that the tumour alone should not determine the procedure. The family history should be carefully examined, and if there existed any trace of cancer, an operation was necessary.

Dr. Dubé did not believe that heredity had much to do with fibroids, though the possible germ theory of cancer was daily making progress.

Dr. DeMartigny added that even if cancer were an infection like tuberculosis, which was far from being proven, it was evident that patients born from cancerous or tuberculous patients were more prone to suffer from cancer or tubeculosis than others, and as future was most uncertain, it was better to be on the safe side.

Dr. Boucher then called the attention of the meeting to a regulation moved by Ald. Dagenais rendering obligatory the declaration of births at the City Hall, and compelling the physicians themselves, under penalty, to make such declarations. This was in contravention of professional dignity, and even in certain cases would be a violation of professional secrets.

After a lengthy discussion, in which took part Drs. De Cotret, Dubé, Décary, Le Cavalier, DeMartigny, Dagenais, Cormier, the principle of the regulation was approved, discussion of its several clauses being postponed.

Dr. Le Sage brought up the question of feeding milch cows with refuse from breweries.

Dr. Dagenais said he saw no inconvenience following the practise.

Dr. Cormier detailed the several disadvantages of such feeding when the milk was to be used for infant feeding.

Dr. Le Sage moved that Dr. Cormier be chosen to preside over a commission with power to name as many members as required and report on the question at the next meeting, the report to be sent to the Alderman. This was carried.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Fifteenth Meeting, May 2nd, 1904.

H. S. Birkett, M.D., President, in the Chair.

Dr. T. P. Shaw and Dr. J. A. Springle read a case report upon Acute Intestinal Obstruction following labour, caused by hæmorrhagic Ovarian Cyst. Dr. Shaw gave the clinical history of the case and, in the absence of Dr. Springle, the operative procedure after the patient entered hospital, and gave as Dr. Springle's conclusions: first, the rarity of the condition; second, that the torsion was limited to the veins and the arteries were pulsating, and third, that the probable cause of the condition was the laxity of the abdomen after confinement favoring the development of a small cyst, which became strangulated.

Dr. Evans: The condition is a rare one, and I think in view of the recovery of the case Drs. Shaw and Springle are to be congratulated. The complication of pregnancy with ovarian tumours of varying kinds leads to such instances as mentioned in this case. The previous history is that of an ovarian tumour evidently damaged at the time of delivery with resulting hæmorrhage and probably necrosis beginning in the capsule, which owing to pressure gives rise to toxæmic symptoms. The treatment is very unsatisfactory as authorities state that with laparotomy for this cause there is a mortality of 50 per cent. I recently saw a case of a similar nature belonging to one of my colleagues. The woman was a primipara and after an uneventful pregnancy he found a tumour in the posterior *cul-de-sac* and asked me to see the case. The tumour was of a cystic nature evidently having its origin on the right side and was diagnosed as being a probable ovarian cyst, but as the labour was advancing very rapidly, the head in the second stage, and the patient out of town, it became a question whether we could get her to town to hospital to do Cæsarean section in time to be of service. The idea was abandoned the child was delivered a short time afterwards and the whole course of the labour was absolutely un-

eventful. The patient had no idea that this tumour existed, no sudden pain or any symptom whatever. On examination after completion of the labour and before the placenta was removed, we could feel no evidence of the tumour. She was watched very carefully and on the third day a train of symptoms almost identical with those of Dr. Shaw's patient presented themselves. There was pain on the right side, no tumour mass could be felt, but there was evidence of threatened intestinal obstruction and she had vomiting, in fact, a slight peritonitis. Fortunately for us the condition resolved itself and under appropriate treatment the patient has made an uneventful recovery, but for 48 hours or so the conditions were rather stormy. The danger of all ovarian tumours is that they will lead to hæmorrhage, through damage at labour, contortion, necrosis and other results of that nature, and the history is nearly always that as Dr. Shaw has recorded, though the outcome is not so satisfactory as in his case.

Dr. England: I was present at the time of the operation and Drs. Shaw and Springle are to be congratulated on the early recognition of this condition. It seems to me that we are recognising more complications of this kind following labour than we did some years ago, and I think it is not uncommon now to find pain and obstruction occurring after labor. I have seen recorded a number of such cases during the past year which no doubt years ago were put down to some puerperal complication. Pain is a common symptom in these cases, and one would expect this with this twisted pedicles. I saw this tumor and it was absolutely filled with blood; there was much congestion and a good deal of inflammation and peritonitis in the region. It was an inflamed ovarian cyst, though there was not much distension and vomiting was not prominent. By taking this case early and in a healthy woman the termination was as satisfactory as one could expect. The early recognition of these cases is very important, and it teaches us to be on the alert for complications in the way of twists of the bowel, bands and tumours.

Dr. Smith: Both our colleagues are to be congratulated on the happy termination of their case. The moral of all this is that anyone leaving a woman go on to pregnancy, or any women for the matter of that no matter what her condition, with an ovarian tumor of any kind is responsible for that woman's life. All such tumours should be removed when first discovered, the earlier the better, and certainly before the pregnancy comes to a termination, for the danger of torsion of the pedicle is a well known danger and is just as likely to happen as not and if the torsion is complete, there is necrosis of the tumour and a very serious peritonitis.

Dr. Shaw: Abdominal tumours are not rare in pregnancy, and we do find numerous reports of tumours, even obstruction occurring, but that is usually previous to confinement. But to find a case of sudden onset four days after confinement, in a woman who had fifteen or twenty minutes before felt perfectly well is unusual. The patient suddenly became very seriously ill, owing to the sudden enlarging of an ovarian cyst which must have been very, very small at the time of confinement, else I should have felt it. I cannot find a report of a similar case; there are other cases somewhat similar but not exactly parallel. No flatus had been passed from the time the patient became ill till after the operation; vomiting, though slight, was certainly present and she was bringing up flatus or gas by the mouth. On opening the abdomen the intestines were found distended with gas. That the positive symptoms of obstruction of the intestines for over three inches producing an inflammatory condition of the gut was proof positive that this tumour acted like a ball valve pressing on the soft elastic tube completely blocking it. The length of time after which nursing was resumed was nearly two weeks, the breasts in the interval were massaged each day and milk was secreted. The patient was extremely anxious to nurse her child, so this was allowed. It nursed once a day in hospital, and after the patient went home it nursed twice a day, the diet being supplemented with artificial food.

Dr. Hackett gave a report of excision of the clavicle, and showed the patient on whom the operation had been performed. He was seen to have a useful arm in every respect.

Dr. Girdwood: Dr. Hackett is to be congratulated on the result obtained. In 1854 one of my colleagues while in action had his humerus shattered, and at the operation some of the periosteum was left with the result that he recovered the use of the arm in the same way.

Sir Wm. Hingston: The periosteal method was evidently the proper one, but we might meet with a dozen cases and not find one where it would be so easy to separate the bone from the periosteum. It would have been really criminal to have removed the periosteum in this case; it is nearly all there and has formed a very admirable clavicle. This operation is performed from time to time, but not often for disease; generally speaking, in ankylosis of the shoulder, removing the bone, in whole or in part, leaves a very much more useful arm. In this case, however, the indications were clear, and they were followed by very satisfactory results.

Dr. Hackett: What I did in this case was to simply take out the dead bone which came right away from the periosteum, only a little adhering.

Drs. Girdwood and C. H. Higgins read a paper upon clinical observations on guinea pigs inoculated with tuberculosis and treated with currents of high frequency.

Dr. Adami: The results which Dr. Girdwood has brought forward this evening are distinctly interesting and valuable, and we hope that such experiments will be continued and include the conditions found in man. We know that bovine tubercle bacilli are much more virulent to the guinea pig than human, and if the human was used it would show a more prolonged type of infection and more typical than the acute condition brought on by the injection of this virulent bacillus; then the application of the high frequency currents would apply more to the condition as it is found in man, and we trust that these experiments will be continued.

Dr. Richer: I have listened with a great deal of interest to this elaborate series of experiments, and I could not help being struck with the similarity between what is called high frequency currents from electric energy and the high frequency currents derived from solar energy. It seems to me that is one of the points that would naturally strike us as being easy of comparison; I think Dr. Adami will bear me out in this. Experiments were made some 10 years ago by Dr. Trudeau of Saranac Lake, who used rabbits and infected them with tuberculosis. One set he allowed to roam around in the sun and open air, the other he kept shut up in a damp unhygienic atmosphere with no sunlight at all. This experiment was carried on in a rather crude way at the time and I do not know that it has been repeated, but it served to show the influence of the solar energy on this condition. Such experiments would be worth while repeating in a thoroughly scientific way, taking smears and making examinations of temperature, and also comparing the high frequency electric currents and the high frequency current from solar energy. With regard to the rise of temperature I would like to make this remark that after exposure to the sun's rays it is frequently noted that there is some rise in temperature. However, this work just reported cannot help but further our knowledge and perhaps increase our interest in the subject of tuberculosis. It also compels me to make a statement in regard to another point and that is the antitoxic sera. Ravenel, in an address at the Henry Phipps Institute, last March, proved rather conclusively that we can hope for a potent antitoxic serum, and he also made the statement that we could look for a toxin similar to the vaccine that is used for small-pox. He has already conducted experiments with very satisfactory results. He has been able to estimate the agglutinating power of the cells and their

sera of the animals that are vaccinated. These are distinct advances in our knowledge of pathology and lead us to a better understanding of the work before us.

Sir Wm. Hingston: One circumstance is of marked interest to me: the experiments of Dr. Trudeau alluded to, which are a repetition of experiments made in France by Cruveilhier, some three-quarters of a century ago. Cruveilhier's experiments were often quoted. A large number of rabbits were used. They were fed poorly and exposed to damp unhygienic conditions without fresh air or sunlight. At certain times they were put out into the fresh air and sunlight, when marked improvement in health occurred, those put out early enough regaining their normal condition. With regard to the question of electro-therapeutics, it is the department to which should be devoted all one's energy, as it appears to me that there is a tremendous future for this field of electro-therapeusis. In France, Germany, England and Scotland the advances made are very striking. They not only deal with a particular ray but they analyse and separate it, as the X or Roentgen, and this has given rise to any number of modifications in these electric currents; I think during the past year two more of these have been separated, and all apart from the rays of radium. I am glad Dr. Girdwood is bringing the energies of his well prepared mind to the consideration of these questions. In cancer there are inoperable cases which cannot be reached by the knife, and electricity may afford the only relief. So far it has been found that electricity is of great service where it can act directly upon the disease, as in epitheliomata and lupus, but when the rays have to traverse healthy tissue to reach disease beneath, it has been found to be of less value. But we have hope for the future even in that direction.

Dr. Hamilton: I would like to add my appreciation of the work accomplished by Drs. Girdwood and Higgins and I may say that I read the original article of Dr. Williams, mentioned by Dr. Girdwood, and was very skeptical. I am very glad now to see the results of these experiments in a clearer light being confirmed by Dr. Girdwood's experiments as reported to-night. I feel with Dr. Richer that nothing, so far brought forward, can be substituted for the solar energy.

Sixteenth Meeting, 20th May, 1904.

Dr. H. S. Birkett, M.D., President, in the Chair.

Dr. H. S. Birkett presented a case of Melanotic Sarcoma of the hard and soft Palate, and Dr. McKechnie read the case report.

Dr. Birkett: The interesting point in this case is the comparative rarity of Melanotic Sarcoma in this region. I have seen one other case.

much more advanced than this, some twelve years ago, the condition involving the whole of the hard and soft palate to a very great extent; a sketch was made of the throat at the time, but it did not show at all accurately the involvement present. Nothing was done at the time and the patient was not seen again. The present case has been under treatment by X-rays for a short time, and you will see from the sketch made by Dr. Philimore, and from the patient at the present time, that there is already slight improvement. It would be very interesting to find the explanation of the occurrence of these melanotic sarcomata in these regions. In this case it is undoubtedly a primary lesion, as careful search was made all over the body for evidence of disease elsewhere. Only last month, before the Laryngological Society of London, Ball presented a similar case.

Dr. Adami, with Dr. Birkett was greatly impressed by the long continued, slowly malignant course of the case—a course so at variance with that of the ordinary melanema. But he had to confess that microscopically the specimen was an undoubted spindle-celled melanotic sarcoma with little or no evidence of alveolar arrangement—and yet the history shows that without doubt the growth had been present for nine years. Without doubt also, with such a history it had to be concluded that the growth was primary in the epithelium of the palate, where presumably it originated in or just below the Malpighian layer. He knew no evidence that in the palate this region normally contained pigment cells.

We were, of course, familiar with the pigmented moles of the skin; a large proportion of those present probably possessed one or more examples of the same, and we know that for long years, or indeed throughout life, these may remain harmless. Had we here to deal with a primary pigmented mole of the palate with slow powers of extension? Dr. Adami agreed with a previous speaker regarding pigmented moles. Cases of apparent primary growth of melanotic sarcoma had been more than once explained as not truly primary but secondary to pigmented moles of the skin. Nay more, it was recognized that a sarcoma of the skin might itself be non-pigmented, its secondary growth pigmented—and some authorities, instead of speaking of melanotic sarcoma, prefer on this account to term the group chromatophoromata—tumours formed of cells *capable of carrying pigment.*

Dr. Shepherd: Five or six years ago a man consulted me for a very similar condition ,and it would seem that this had been present for a very long time. He was to come back and have a microscopical examination made, but he never turned up and was not seen again. It was an almost identical condition with that shown in this patient. The pigmented mole is very common, and it has always been my practice

whenever I have seen one to remove it. I have seen seven or eight cases of melanotic sarcoma of the skin, and all the patients succumbed in a short time from a recurrence.

Dr. Archibald reported a peculiar case of Empyæma.

Dr. Shepherd: I was very much interested in Dr. Archibald's case, but I do not see why it should not be secondary to the subphrenic abscess, as infection is upward, seldom downward. Still it is a rare case and it is very difficult to say where the origin of these abscesses may be.

Dr. Archibald: The possibility of primary subphrenic abscess was duly discussed, but I excluded it from lack of any primary condition in the diaphragm. It was in the right side, therefore it could hardly be stomach, spleen or pancreas; there was nothing apparently wrong with the liver and nothing wrong with the appendix. Besides it was a very small abscess, whereas the pleural one was very large and the history showed that it had evidently begun as a pneumonia following Grippe, and on this ground was pleural. I therefore decided that the subphrenic abscess was a secondary condition. The recovery of such cases surely ought not to be rare. The statistics of Meindl embrace 179 cases, which consisted of the cases which had been published up to that time and necessarily a great many of them were post mortem cases.

Dr. Starkey read a paper entitled Observations relating to the etiology of Infantile Diarrhœa.

Dr. Evans: For some years past my attention has been directed to this subject. The areas mapped out by Dr. Starkey are interesting in that they tally with the districts which Alderman Ames noted in his book called The City Below the Hill, in which he pointed out the relation of the high mortality to the presence of cesspools, as has also been noted by Dr. Starkey. Another fact which strikes one from this paper is the depressed areas in these affected localities. In Dresden an observer drew attention to this fact some years ago. When high winds developed the level would drop to a lower grade; probably the high winds showed that the faulty ventilation of these districts has something to do with the prevalence of disease. Our mortality is a disgrace to any civilized city, and I think it would be of the deepest interest to take one of these districts mapped out, have it patrolled by practitioners, the parents taught how to feed and properly care for their children, to have the food superintended and supplied at a moderate cost with instructions as to its care, and then have the mortality in that district carefully noted, and after a certain period compared with the present statistics. Prof. Holt is carrying on work of this sort in certain districts in New York with great success. Of course I think, too, the

feeding is of secondary consideration, but with this and improved sanitary conditions great improvements could be brought about in the death rate. It seems to me that the poverty of the inhabitants is an important factor. In these low lying areas the moisture and drainage would naturally flow down from the higher levels and be composed of deleterious and fermentable matter, and the children playing in and around this would naturally be the sufferers. Aside from the irritation of dentition of the first year, there is an additional cause in the presence of these microbes. In the lower levels, where there is moisture, there is also more or less fog; the heat there evaporates the water from the soil, and chill, especially at night time, causes this fog to hang over the area. So here is still another feature, and by taking the exact dew point you will find that a degree more or less enables these microbes to grow. In the disinfection of railway cars it has been proved that formaldehyde is absolutely useless unless the atmosphere is saturated at about 75 per cent. You have to deal with the temperature and saturation of moisture which enables these microbes to grow. When the high winds blow through these localities this mist or moisture is blown away, and you have fresh air which has again to be saturated with that moisture before these microbes grow again.

Dr. Girdwood: I should like to ask, if the death rate is a just criterion of this disease. From the districts indicated it would seem that the inhabitants of these properties are people who cannot afford to go to any expense in connection with curative measures for their children. Might not this disease exist in the same proportion in those better situated, who can afford to take their children away for a short time?

Dr. Adami: I must congratulate Dr. Starkey upon having taken up this subject. Judged from every point of view this remedying of our terrible mortality is of the highest importance to us as a community, and I think Alderman Ames, who has done so much for the sanitary condition of the city by studies of a somewhat similar though more general character, will be pleased with the results Dr. Starkey has brought out this evening. With regard to work on the summer diarrhœas of children, one of our Montreal workers, Dr. Charlton, working under Professor Escherich, has communicated to the recent meeting of the Association of American Physicians at Washington a very interesting paper upon cases in the Ste. Anna Spital in Vienna, in which he shows the clinical confusion between mild cases of dysentery and these summer diarrhœas. The Shiga type of dysentery he found the most severe. In the Flexner type there is not quite so much tenesmus. He has worked out 68 cases of severe diarrhœa with com-

plete bacteriology, showing a majority of colon and proteus types of summer diarrhœa and even streptococcus. The work is a good one. Now with the convergence of all these different methods of investigation, the bacteriological, hygiene, etc., one should acquire facts which will lead us surely to alter for the better the present condition of affairs.

Dr. Starkey: The fact of high winds is a very important one with reference to the ventilation of areas. It has been noted over and over again, that if you take these areas in which disease is prevalent, you will find that on a still warm day the dust hangs around there, and you get large numbers of bacteria from any culture media you may use; on windy days on the other hand these get blown away and there is no chance for them to settle down on food. The blind alleys prevent the winds from thoroughly ventilating these areas. I think that the feeding of infants amongst the poorer classes and their proper care would bring surprising results; it has already done much good. Time did not permit of my going into the bacteriology of this subject, but already here we have a good many facts before us. I think the death rate is a good criterion. The fact that the disease may be prevalent in another district and the cases recover hardly applies to the epidemic diarrhœas noted, as it is so acute that there is not much time for infection from a distance.

McGill Undergraduates Medical Society.

JOHN MARCA LANCISI—1654-1720.

BY

D. S. Likely.

John Marca Lancisi was a noted Italian physician and surgeon. He was born at Rome on the twenty-sixth of March, 1654, and died on January the twenty-first, 1720. After completing his earlier education in classics, he took a course in philosophy at the Roman College. For some time he devoted himself to the study of divinity, but later he gave this up for a medical career which was more in accordance with his tastes. He gave his attention especially to anatomy, chemistry, and botany, and he also studied geometry, which he thought might be of use to him.

In 1672, at the age of eighteen, he was made a doctor of philosophy and physic. To prepare himself for the practice of his profession he entered the Sancto Spirito Hospital at Rome, and spent three years in practical work. In 1675 he was appointed physician in ordinary to the Hospital of the Holy Ghost in Soffa, where he made many im-

provements and began the practice of writing the history of the different cases. He was admitted as a member to the College of St. Saviour in 1678, where he spent five years in reading the best authors upon physic. In 1684 he was appointed professor of anatomy in the College of Sapienta, and this office he held for thirteen years with great credit to himself.

Before Lancisi was thirty-four years old Pope Innocent XI. chose him for his physician and private chamberlain. Later he held the same position to two succeeding popes. The remainder of his life was spent in the practice of his profession and in writing books. During his life Lancisi had collected a splendid library of over twenty thousand volumes. Before his death he presented this library to the Hospital of the Holy Ghost for the use of the public, particularly the young surgeons and physicians who attended the patients in that hospital.

Lancisi was foremost in many branches of the science of medicine. He did much valuable preliminary work in founding a science of Hygiene, studying the exhalations from marshes. He also studied means of improving the unhealthy condition of the Roman Campagna. His name is also mentioned among the founders of Pathology. He investigated and gathered much information concerning the calcareous degeneration of the valves of the heart and concerning its dilatation and hypertrophy. He connected pulsation in the jugular veins with the dilatation of the right side of the heart resulting from incompetence of the tricuspid valves.

The distribution of the fibres in the corpus callosum was studied by Lancisi, and the longitudinal fibres bounding the median raphe have been named after him.

The principal of Lancisi's works were collected and published at Geneva in two volumes in 1718—entitled John Marcæ Lancisii, Archiatri Pontificii; Opera Omnia in duos tomos distributa.

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CARCINOMA OF THE BILE PAPILLA.

BY

OSKAR KLOTZ,

Governor's Fellow in Pathology,

McGill University, Montreal.

Although cases of cancer of the bile papilla have been accumulating fairly rapidly in literature, the affection must still be considered of somewhat unusual occurrence. Moreover as each case presents certain features of its own, especially regarding its epithelial origin, I considered it a sufficiently interesting and profitable study to record the following two cases.

Before passing on, I wish to express my indebtedness to Dr. Martin and Dr. Bell, under whose service the patients were admitted to the Royal Victoria Hospital, for their permission and use of the clinical notes, and to Dr. Adami for the protocols of the post-mortem examinations.

CASE I.—V. R., male, æt 62, was admitted to the Royal Victoria Hospital under Dr. Martin, January 3rd, 1903. Patient was born in England and came to Canada at the age of 48. He worked as a mason until six years ago; since then he has been a gardener. There was a history of specific disease at the age of 18, and also a history of alcoholism. Family history was negative.

Present Illness.—On July 1st, 1902, patient noticed some enlargement of the abdomen, which went on until December, when he had some pain over the liver, accompanied by constipation. By January he was somewhat jaundiced. He had not worked for three weeks previous to admission to hospital, and during this time food caused some nausea and vomiting. Patient noticed that the stools were foul and "like putty." For the last two months the urine has been dark coloured and in this time he estimated he had lost twenty-five pounds.

Condition on admission.—The patient was somewhat emaciated, the muscles were small, the skin markedly jaundiced and dry. His intel-

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ligence was fair though at times dull and listless and occasionally irrational. There was dull pain all over the region of the liver, which was enlarged, its lower edge reaching as far as the navel. There was a condition of general arterial sclerosis, and a systolic murmur was heard at the apex with an increased aortic second sound. The abdomen was full, with some tenderness in the epigastrium. The urine was a dark amber colour, alkaline in reaction and showed the presence of bile. His blood count showed 3,470,000 red cells and 20,800 white cells with 50 per cent. hæmoglobin present. While he was in the hospital the jaundice steadily increased, and with it the patient became more stuporous. He was steadily on the downhill and died three weeks after admission.

Autopsy.—Body was that of an elderly, emaciated man, with skin of an intense yellow colour. There were slight external piles. The lungs showed a hypostatic congestion and on section were of a greenish yellow tinge due to bile staining. There was no sign of tuberculosis.

The pericardial cavity contained bile stained fluid. The heart was small, and its coronary arteries showed evidence of arteriosclerosis. The aorta presented some small patches of fatty degeneration. The viscera of the abdomen had a distinct yellow colour, while the cavity contained about 10 c.c. of yellow fluid with abundant lymph flakes. Some loose plastic adhesions were found between the coils of small intestine. The edge of the liver extended some 6 c.m. below the costal margin. The stomach walls were thin, of a slatey grey colour, but otherwise normal. The duodenum was fairly capacious and from without nothing abnormal could be detected. On opening it, the bile papilla was seen projecting as a firm even mass into the lumen of the bowel. A probe passed into the papilla was arrested, 1 c.m. from the orifice, and brought away with it some puriform material, which under the microscope consisted of columnar cells, and here and there collections of polymorphous cells of large size, closely resembling cancer cells. The remaining portion of the intestinal tract was normal. The liver was large, its surface smooth, except for a few sessile nodular projections over the upper anterior part of the left lobe, resembling nodular hypertrophy. The organ was distinctly soft and on section bile stained. Dilatation of the bile ducts was found everywhere and localized areas of necrosis could be seen along these. The larger bile ducts in the liver were the size of a lead pencil and contained fluid bile, while the common bile duct admitted the thumb. This distention of the duct was followed by a tight constriction immediately as this passed into the head of the pancreas. At autopsy it was impossible to pass a probe through the duct to the orifice on the papilla, but on dissecting the specimen

it was found that the obstruction was due to pressure and kinking of the duct, rather than the invasion of the growth into the lumen. The pancreas showed marked atrophy and general dilatation of the main duct to the diameter of a lead pencil. A probe passed from the pancreatic duct was similarly arrested in the ampulla. The pancreatic lobules were surrounded by strands of firm connective tissue, and about the head there was some fat necrosis. No secondary growths were found and the remaining organs were normal.

Anatomical Diagnosis.—Columnar celled adeno-carcinoma of the Ampulla of Vater; obstruction with dilatation of the biliary and pancreatic ducts, icterus, acute plastic peritonitis, right hypostatic pneumonia, right old pleural adhesions.

Case II.—J. M., æt 40. Admitted to the Royal Victoria Hospital under Dr. Bell on September 24th, 1903. There was a history of typhoid fever eight years ago, and also of the use of alcohol to a moderate extent. Patient worked in the lumber camps during the winter, and was in perfect health until he returned in March, when he complained of a dull pain in the back. He was admitted to the hospital in June but remained only 18 days, with little improvement. The pain continued and made him feel weak. His appetite began to fail and he lost some thirty pounds between March and September. A week before admission to the hospital he vomited four or five times.

On admission to hospital, patient was poorly nourished with well developed but flabby muscles. Skin was dry and harsh with a yellow tinge. The conjunctivæ were distinctly yellow. A dull aching pain in the lumbar region, chiefly on the left side, radiated to the front of the abdomen and chest. As there was some tenderness over the umbilical region a thorough examination could not be carried out, but no mass could ever be felt. His appetite was poor, while he suffered from nausea with the sensation of weight in the stomach. He was constipated and the fæces were pale. The urine contained bile, but no albumen. The red blood cells numbered 3,910,000. While in the hospital the jaundice kept progressively increasing. He complained constantly of pain in the abdomen but could give no definite location of greatest intensity. An exploratory laparotomy was undertaken in October with the resulting diagnosis of malignancy situated about the head of the pancreas. Nine days after this, during a fit of coughing, the wound broke open, and another incision was made and the gall bladder was stitched to the edge of the second wound and drained. The patient continued getting weaker and died on November 12th, 1903.

Autopsy.—Body that of a tall, emaciated man, with a yellow colour to the skin. Two wounds of recent operation were situated over the

site of the gall bladder and in the median line below the umbilicus respectively.

The lungs were healthy looking, except the right lower lobe, which showed evidence of terminal pneumonia and also a cluster of small abscesses along the anterior margin of this lung containing streptococci. The heart was small but showed nothing special. In the abdomen the small intestine was adherent to the recent median wound, and was covered with flakes of slimy lymph which yielded streptococci. There were about 350 c.c. of bile stained fluid in the abdominal cavity. In the duodenum, the site of the bile papilla was the seat of a shaggy necrotic ulcer measuring 3 x 2 c.m., into which the bile duct opened apparently without difficulty. The pancreatic duct opened 4 c.m. below the ulcer and admitted a probe readily. The common bile duct was tortuous, but a probe could be forced through it from above. The edges of the ulcer were somewhat undermined, leaving a continuous tag of mucosa overlapping it. The mucosa seemed uninfiltrated by any growth and was soft right to the edge of the ulcer. The liver was rather small, of a dark green colour with a deeper pigmentation in the centre of the lobules, giving the organ a dark green nutmeg appearance. The organ was firm with a smooth surface. Edges of the right lobe were sharp showing evidence of atrophy. The gall bladder was partially distended with dark fluid bile while the common bile duct was dilated and tortuous, and was constricted by several infiltrated glands along its course. The duct was patent as it passed through the duodenal ulcer, which appeared to be of the nature of a broken down primary cancer of the papilla. The common bile duct showed no involvement in the new growth, except at the lower end. The pancreas was relatively larger than normal, firm and fibroid, but at no point did it show the presence of secondary growth. The mesenteric glands in this neighbourhood and at the root of the mesentery were œdematous, but only a few along the bile duct had the appearance of being involved in secondaries. With the exception of having canalized thrombi in the iliac veins, and a left-sided inferior vena cava to the height of the left supra renal vein, the other organs were normal.

Anatomical diagnosis.—Cancer of the bile papilla with ulceration; secondary growths in the periportal lymph glands; obstruction and dilatation of common bile duct; icterus; aberrant orifice of main pancreatic duct; subacute purulent peritonitis; abscesses of lower lobe of right lung; aberrant situation of inferior vena cava; old canalized thrombosis of the iliac and pelvic veins; chronic interstitial nephritis with recent parenchymatous nephritis.

Before going on to the discussion of the pathological findings along with the microscopical examination of these cases it might be well to briefly run over the histology of the bile papilla as we normally find it.

Normal Histology.—The bile papilla represents the puckered up mucous membrane of the duodenum, where the bile duct opens in common with the pancreatic duct into the lumen of the intestine. It is situated on the left side, about the middle of the second portion of the duodenum, and projects slightly above the surface of the mucosa. Frequently on opening the duodenum, it escapes detection and is found only by passing a probe through it from the common bile duct. Normally the papilla is soft and is not unlike one of the valvulæ conniventes from which it cannot be distinguished by the feel of the finger. However, when it becomes involved in a new growth, or its lumen is occluded by a gall stone, it stands out as a hard mass into the lumen of the bowel.

The structure of the papilla is essentially that of the duodenum with the ampulla of Vater passing through its centre. The duodenal surface is covered by an epithelial layer continuous with that of the intestine. Villi are present, as are also the crypts of Lieberkühn, both of which are lined with columnar cells. The columnar epithelium on the villi does not differ from that found in the crypts, the object of both being to increase the surface area of the intestine. The muscularis mucosæ surrounds the papilla like an orbicularis muscle, and in a similar manner also surrounds the ducts of Brunner's glands, controling their orifices with a valve-like action. The submucosa consists of firm connective tissue with glands which are found only in the duodenum. These duodenal, or Brunner's glands as they are called, are tubular racemose glands, whose branchings are coiled in the uppermost layer of the submucosa, while their ducts pass through the muscularis mucosæ to reach the intestinal surface between the villi. The ducts may or may not open into Lieberkühn's crypts. The lining cells of these glands are cylindrical, merging into a more cubical character as the duct passes through the muscularis mucosæ.

Brunner's glands are described as being present only in the upper part of the duodenum. I have found them present in and about the bile papilla in all of four cases I have examined. The muscularis and serosa of the duodenum do not differ from those found in the remaining part of the small intestine.

The ampulla of Vater, the small recess in the papilla, into which open the common bile duct and the pancreatic duct, measures 0.5 c.m. in length. The lining of the ampulla is continuous with, and does not differ from that of the bile duct, both being columnar celled.

Anatomical variations of the ampulla are not uncommon, and malignant growths complicating the anomalies set up a different train of symptoms for each. Thus at times we find the bile duct and Wirsung's duct unite at some distance from the papilla, converting the ampulla into a long tube; or else a septum exists between the two ducts throughout their course through the ampulla, when each opens by a separate orifice on the top of the papilla. Occasionally too, the ducts open into the duodenum at some distance from each other. In this case the bile duct opens at the normally situated papilla.

Microscopical Examination of the reported cases.—In the first case cited the microscopical examination showed the tumour to extend laterally from the epithelium lining the ampulla, for a distance of not more than one centimetre, and to infiltrate the muscularis of the bowel by solid columns of cells. The free surface of the tumour within the ampulla showed a partial degeneration and softening which accounts for the epithelial debris removed with the probe during the *post mortem* examination. There was very little change, if any, noticed on the duodenal surface of the papilla, other than a slight inflammatory condition. Brunner's glands could not be found involved—in fact, the growth did not extend as close to the surface as these glands, but was lying rather closer to the head of the pancreas where the cells became more spheroidal. No part of the pancreas was found to show any infiltration of the aberrant tissue, while the pancreatic duct was likewise free. The neighbouring lymph glands showed no secondaries, nor were any found in the liver, though in the latter organ there was an overgrowth of the fibrous tissue along the portal systems and an atrophied condition of the liver cells. The tumour is a primary cancer of the ampulla.

In the second case, sections taken from the region of the papilla, showed the structure of an adenocarcinoma. Near the surface it was more of an adenomatous character than is found in the deeper parts where the alveoli contain large multinuclear cells. In the sections the growth can be traced as extensions from the duodenal glands (Brunner's), leaving the muscularis unbroken except where the ulceration has taken place. The rapidly growing neoplasm has led to softening with the consequent necrosis of the papilla, similar to the ulceration of the superficial structures in cancer of the breast. Even underneath the ulcerated mucosa, partially preserved cancerous masses similar to the proliferated Brunner's glands at the border, were found. I consider the case clearly one of primary cancer of the duodenal gland. There was a diffuse small celled infiltration of the connective tissue; while the cells immediately lining the alveoli were columnar. Below these

infiltrating glands, numerous solid nests of epithelial cells were lying between the muscle bundles. The cells are no longer of the cylindrical character, but rather spheroidal or polymorphous, with large round nuclei. Within this area are alveoli in whose centre mucoid degeneration has set in leaving only the outer rim of cancerous cells. A few of the outermost lobules of the head of the pancreas showed some infiltration of the tumour, but clearly differentiated from the parenchyma of the organ. Secondary metastases were present in the lymph glands of the lesser omentum, as far up as the hilus of the liver, but no secondaries were found in the liver itself. The cells of the metastases were larger and more spheroidal than at the primary seat.

Case II.—Section of bile papilla showing proliferation beginning in the duodenal glands at site of ulceration.

Malignant growths are by no means rare in the intestinal tract. Of these, primary carcinoma decreases in frequency from the rectum upwards until the duodenum is reached, when it again increases in frequency as we approach the stomach. Just what percentage of primary tumours of the intestine is confined to the duodenum is difficult to say; the Vienna tables places it at about 1 per cent., the Berlin tables give

a higher figure. Later statistics place it as high as 10 per cent. (Heulin's table).

Of primary cancer of the duodenum over 50 per cent. are confined to the second portion about the bile papilla. In 45 reported cases of primary disease in the duodenum in which the localization of the tumour was definitely given, I find that 25 per cent. had their origin in the first part of the duodenum, 63 per cent. in the second part, and 12 per cent. in the third part. Of those beginning in the second portion, 76 per cent. involved the bile papilla.

The bile papilla is a structure in which we may have cancer arising from five different sources, and, as in each, the epithelium is either columnar or cubical celled, the cells of the aberrant growths can only with difficulty be distinguished as belonging to this or that source. Rolleston describes carcinoma of the ampulla arising from four different sources, and, as the ampulla is an integral part of the papilla, malignant growths of the ampulla are identical with those considered under the papilla. Thus, in the ampulla, Rolleston describes cancer arising from (1) the common bile duct, (2) the pancreatic duct (Wirsung's), (3) the epithelial lining of the ampulla, and lastly, from (4) the mucosa of the duodenum immediately surrounding. To this must be added a fifth origin of epithelial tumours of the papilla, namely, those arising from the duodenal or Brunner's glands. They have all been called carcinoma of the ampulla of Vater, and rightly so, as the invading growth soon involves it in extension, giving rise to objective symptoms of a tumour in this region. It is only in the few cases in which death has resulted before marked invasion has taken place into the adjoining tissues that a definite decision regarding the exact epithelial site of origin can be arrived at.

Authentic cases of cancer primarily arising from the ampullary epithelium are few. Rolleston (1901) after excluding all doubtful cases, finds only seven in literature, which along with the first of the above cases gives us eight reported up to the present. It is interesting to note that Halsted operated successfully on one of the seven cases, though he admits having made the fatal mistake in removing a portion of the growth in situ for microscopic examination, to which he attributes the cause of secondaries occurring some months later.

That Brunner's glands may be involved in malignant growth without involving the epithelial lining, or crypts of the duodenum, I wish to emphasize, as is seen in the histological findings in the second case. In it, along with the anomaly in which the pancreatic duct and the bile duct open by separate orifices on the duodenal mucosa, existed a carcinoma of the papilla springing from Brunner's glands. The malignant

growth was situated at the biliary orifice and can hardly be classed as a cancer of the ampulla. There was no ampulla, but the location of the tumour was that of a normally placed one. The course of the pancreatic duct, unassociated with the bile duct, removed all suspicion of extension from it or the pancreas. As it happened, in this case the Brunner's glands involved were those immediately surrounding the papilla and invasion took place into the deeper structures and about the bile duct. This invasion was sufficient through pressure to obstruct the duct, with the consequent jaundice and its complications. As the pancreatic duct was uninvolved there was no retention of pancreatic secretion and hence digestion was not markedly disturbed for some time. At autopsy the carcinoma had progressed to ulceration which destroyed the papilla.

The first of these cases was one of true carcinoma of the ampulla. It is indeed remarkable how small sized a tumour, springing from the lining of this recess, may lead to a fatal termination. This invasion, though not extensive macroscopically, was sufficient to cut off the lumen completely. Following the obstruction of the bile and pancreatic fluid the ducts in both the liver and pancreas were greatly dilated. In looking at the papilla from the duodenal surface the appearance was that described by Rolleston as seen in primary carcinoma of the ampulla. The mouth of the papilla was gaping and within it could be seen a small tumour mass. A vertical section through the papilla showed the bile and pancreatic ducts to be intact, and the neoplasm to exist below the duodenal mucosa and above the head of the pancreas.

In those cases in which the bile duct and pancreatic duct meet at some distance from the papillary orifice it can readily be seen that a cancer arising in the ampulla would be recognized without difficulty as having its origin in this region, but such a case has, to my knowledge, not been met with.

Regarding the symptoms worthy of confidence in the diagnosis of duodenal ulcer, Whittier places foremost those arising out of obstruction of the common bile duct, and the effects following the lessening in calibre of the intestine. Now, in the reported cases of carcinoma of the papilla, there are few in which the growth beginning in the papilla spread about the circumference of the bowel. Nearly all cases had a fatal termination before this stage was reached. The infiltrated papilla projects into the lumen of the intestine, and here bears the brunt of the irritation from the intestinal contents, with a diminished blood supply ulceration occurs early, with a consequence that blood may appear in the dejecta and vomitus. Obstruction of the bowel thus plays little part in the clinical history of cancer of the papilla.

Jaundice is the most constant feature, and when present is progressive.

With the obstruction of the bile the stools are clay-coloured and offensive, the gall bladder is distended and the liver enlarged and tender. The early symptoms of indigestion are chiefly referable to the absence of bile from the intestine. If the obstruction also involves the pancreatic duct, the indigestion is exaggerated and the pain and tenderness over the pancreas is much increased.

Vomiting is an early and fairly constant symptom, but presents variable characters. At the beginning, vomiting usually sets in a short time after meals and is due to an increased irritability of the duodenal mucosa. Later on it becomes more frequent, with no relation to food taken and showing complete absence of bile.

Pain is an uncertain and unreliable feature, being due to varying causes. The pain of ulceration, flatulence and occlusion of the bile duct may all be present at the same time and so be of no service in basing a diagnosis. During ulceration and obstruction of the papilla, periodical lancinating pains are present, not unlike those seen in biliary colic. Some even go so far as to say that a number of cases have their origin in the presence of an obstructed stone in the ampulla of Vater. No such close relationship between gall stones and cancer of the papilla exists as is found with malignant disease of the gall bladder.

The presence of a tumour is rarely discoverable on account of the position of the second portion of the duodenum. Moreover, as has been said, a tumour involving the papilla is usually so small that its presence, even in a favourable position, would readily escape detection. Should a tumour be felt, it is most likely to be mistaken for the head of the pancreas.

Emaciation is rapid and fever is seldom present.

It is the exception rather than the rule to find extensive metastasis, and it is seldom that other than a few lymph glands in the immediate neighbourhood become infiltrated. The chances for a septic cholangitis in the dilated bile ducts is great.

The duration of the majority of the cases on record is from five weeks to six months after the first symptoms appear, and up to the present, Halsted has been the only one to attempt a radical operation.

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THE CLIMATE OF CALGARY IN THE TREATMENT OF TUBERCULOSIS,

BY

ERNEST WILLS, M.D., M.R.C.P., Eng.
Physician Superintendent to Calgary Sanatorium.

The question of climate in the treatment of tuberculosis, pulmonary tuberculosis especially, is of widespread interest and at the same time the subject of such varied views that its consideration seems worthy of attention.

Discussing first, the main principles of climate, both at sea level and higher altitudes, the bearing of these facts on the treatment of tuberculosis in the Northwest, of which Calgary is the best district, will be considered, and will show the value of climate in this disease especially, as well as in others.

The word climate or Greek "klima", derived from the ve[illegible]nein" to slope or incline, was originally applied by the ancients to [illegible] that obliquity of the earth's surface with respect to the horizon, [illegible] hich results the inequality of day and night. The early astro[illegible] and geographer Ptolemy, about A.D., 140, divided the earth's sur[illegible]o a series of parallel climates, or zones, which differed from each ot[illegible]he same movement in length, namely 15 minutes of the midsum[illegible]y. Again, Edrisi or Aldrisi, the most eminent of the Arabian geo[illegible]'s who flourished in the 12th century, in his magnum opus: "Tl[illegible]; out of a curious man to explore the regions of the globe, its pr[illegible] islands, cities and their dimensions and situation." divided the [illegible] into seven climates, commencing at the equinoctial line and exte[illegible] northward to the limit at which the earth was supposed to be ren[illegible] uninhabitable by cold, each climate being subdivided by perpendi[illegible] lines into eleven equal parts, beginning with the West Coast of Af[illegible] and ending with the East Coast of Asia. The author takes these [illegible] divisions one by one, from west to east, and south to north, and deseri[illegible] their characteristics.

It may be easily seen that these climates would have different atmo[illegible] pheric conditions according to their situation, since the power of th[illegible] sun's rays, perpendicular to the earth at the equator, becomes less to[illegible] wards the north as they become more oblique. And so when the division of the earth's surface into climates was abandoned, for the more scientific partition by the lines of latitude and longitude, the term "climate" though remaining, had another significance, and denoted not the earth's slope or inclination, but the atmospheric conditions of heat, moisture, winds, rain, clouds and electricity, the variations of which depend, to a certain extent, on this inclination or slope. Climate is quite distinct from weather, since it is possible to have very bad weather, the particular condition,

in a place which has an excellent climate, the general condition. By a change of weather is meant such changes of the above conditions as occur daily, and since these changes are dependent on and intimately bound up with atmospheric pressure, the latter, as indicated by the barometer, is the key to the weather.

Climate may be defined as the average condition, meaning thereby, not merely the general average of all values of temperature, wind rainfalls, etc., but the extreme values and the averages of the extreme values for long periods of time. Apart from average climates, there are deviations such as extremes of cold or heat, or of extreme humidity or dryness, such as the extreme cold experienced throughout Canada, more especially Eastern Canada, during the past winter, or the extraordinary fall of snow in May, last year, in Alberta. There may be liability to storms of wind, thunderstorms, fogs, hail storms etc., but these exceptions do not alter a climate, since they are due to cyclonic or anticyclonic disturbances of infrequent and irregular occurrence.

Change of climate does occur, but is much more gradual than change of weather, and due to more important and lasting causes. In the past, gradual or sudden changes of the solar system, or in the earth which is dependent on the former, have caused very different climates, as shown by geological evidence, while more recent and more easily traced changes are due to human agency. The removal of forests, and the laying bare to the sun and wind of areas previously kept cool and damp, or protected from tempests, have rendered large areas of country dry and arid, as in the desert countries bordering on the Mediterranean. Cultivation and drainage, since these rapidly remove rainfall, and therefore, lessen evaporation, which in turn lessens rainfall, gradually raise the temperature of a country. This has happened in Manitoba, where since cultivation has become more general summer frosts are almost unknown, while formerly they were a great drawback to the wheat farmers. By transforming moors and bogs into cultivated land, and clothing hillsides with trees, rainfall may be increased, and in low countries malaria may be lessened or abolished with the removal of sloughs and stagnant pools in which mosquitos deposit their eggs.

It remains true, despite extraordinary incidents and changes just mentioned that climate, the average climate, is fairly constant in any particular area or country. The variations of climate in different parts of the world, however, are infinite, consisting as they do in different combinations and proportions of wind, temperature, moisture and rainfall at different distances from the equator, from the sea—the chief source of rain—or above the sea; a potent factor is the distance from the equator, since, in proportion to this distance is the obliquity of the sun's

rays, and the absorption of heat by the atmosphere is again in proportion to the length of their path. In general, one-half of the heat received by the illuminated atmosphere is absorbed by it leaving the other half to reach the surface of the earth, if there be no intercepting clouds.

If the earth's surface was uniform, the climates, into which Ptolemy and Edrisi divided it, would show equal differences of heat and sunlight; but its unequal division between land and water, water being greatly in preponderance, brings about a subversion of the ancient solar climes.

Aqueous vapour, in the diverse ways in which, in different localities, it is distributed through the hours of the day, plays the most important part in giving to the different regions of the globe their infinitely diversified climates. The temperature of the air at the surface of both land and ocean and throughout the atmosphere, as modified by winds and aqueous vapour, is the fundamental element in climatology; therefore, temperature, as exhibited by means of isotherms, or lines of equal temperature, drawn on charts of the globe and passing through places having the same temperature, although they may be of quite different latitude, longitude and altitude, is of the greatest use as a guide for the traveller, the agriculturist and the invalid.

Winds may be regarded as caused directly by differences of atmospheric pressure, just as the flow of rivers is caused by differences of level—the motion of the air and the motion of the water are both referable to gravitation. Wind blows from a region of higher towards a region of lower pressure—from where there is a surplus to where there is a deficiency. Let there be produced a concentration of aqueous vapour over a particular region, or let one region have a higher temperature than what prevails around it, then, from the different densities and consequently different pressures thereby produced, movements of the air or winds set in to restore equilibruim. Again, if there be a region of warmer air, this air will ascend and colder air will flow in to take its place; or if one region be more highly charged with aqueous vapour, and therefore lighter the air will ascend and drier air come down, or in, to take its place. Since some of the vapour as it ascends will be condensed into clouds or rain, heat will be disengaged and equilibriumm still further disturbed. From such causes originate gales, storms, tempests, hurricanes, cyclones, etc., of which the most marked examples are experienced on or near the ocean, owing to the difference of temperature between sea and land; also inland, in the vicinity of great lakes or inland oceans, and in the great inland valleys and plains where the necessary differences of temperature and pressure frequently ocur, from the great columns of hot air, formed over these vast districts in hot weather, ascending and cold air rushing in from regions of higher pressure to take their place.

The ocean is the chief source of rainfall, and to prevailing winds, the carriers of this rainfall, we look for its explanation, the principles being as follows.—1. There is a large rainfall when a wind has traversed a considerable extent of ocean. 2. There is increased rainfall if winds advance into colder regions, with increased precipitation when ascending a range of mountains, and decreased precipitation when descending on the opposite side. 3. Winds coming from the ocean, but not traversing a considerable extent of it do not increase the rainfall. 4. Winds may traverse a considerable extent of ocean, but if proceeding into lower latitudes or warmer regions cause little rainfall, thus the summer climates of California, Southern Europe and Northern Africa have little rainfall.

Climates are, therefore, divided into marine and inland, characterised respectively as moist and dry, from the relative proportion of aqueous vapour, and it is the dryness of the inland climates, especially of inland regions at higher altitudes—of which the chief characteristic is their low humidity—which makes them so beneficial to the sufferers from Tuberculosis. The effect of winds and temperature owing to this difference in humidity at sea level and higher altitudes is very different. A wind charged with aqueous vapour being much more trying and feeling much colder than a less humid air, all winds from the ocean and great lakes are more perceptible and more to be feared from a health point of view. The same applies to the cold air and mists which form at night in valleys owing to the rapid sinking of the air, as it cools in contact with the slopes—themselves cooled by radiation, and its increase in humidity as its density increases.

The gaseous envelope around the earth consists of two atmospheres, a dry constant air composed of Nitrogen and Oxygen; and an aqueous atmosphere, or Hydrogen and Oxygen in gaseous state, which is inconstant, since it does not remain in gaseous state, but is constantly changing by evaporation, condensation and change of temperature; also more aqueous vapour is being constantly added from the surfaces of water, snow, ice, plants, trees and moist surfaces generally. Evaporation increases with temperature because the capacity of the air for vapour is thereby increased. Air can contain only a certain amount of vapour, when saturated evaporation ceases. During a wind, since fresh air is constantly taking up moisture, evaporation is more rapid. As air expands its temperature falls, and it continues to approach nearer saturation until condensation occurs, and dew point is reached. Thus ascending currents of air become moister until there is formation of clouds, rain, snow, hail, etc., and conversely, descending currents of air, or air becoming denser, become drier.

This varying amount of aqueous vapour is measured as humidity. Absolute humidity, accurately estimated by the elastic force of vapour, is the absolute amount of moisture in a given quantity of air at the place of observation. Relative humidity, which is that referred to, usually, in weather observations, means the degree of approach to saturation of the air with moisture, and ranges from 0 to 100 per cent., from complete absence of moisture to complete saturation—0 per cent. R. H., never occurs, since even 10 per cent. is of rare occurrence in such arid regions as the deserts of Arabia.

The great significance of humidity is in its relation to the diathermancy of the air and to solar radiation. Dry air would allow the sun's rays of the heat to pass through with, at most, only a slight increase to its temperature therefrom. Let, however, a little aqueous vapour be added, and a partial obstruction to the passage of heat is offered, and the temperature of the mixture, or common air, is sensibly raised. Hence, the less the humidity, other conditions being equal, the more are the effects of radiation felt, the greater is the heat by day and the cold at night. The mere amount of vapour does not determine the degree of radiation, but it is this amount together with the temperature, or in other words absolute and relative humidity taken together determine the heating powr of the sun, and the degree of cold produced by radiation. The great variations of temperature, in 24 hours, in dry climates are the result of low humidity, absolute and relative, and this is why these extremes are of less relative importance than in humid climates at lower level, where they would be much more sensible, and indeed, would be severe. Maximum humidity prevails from midnight to 4 a.m., or when temperature is at its minimum; and minimum humidity about 2 p.m., or when temperature is at its maximum, that is to say, the curve of humidity is inverse or opposite to that of temperature.

It is this factor of humidity in connection with temperature which makes it impossible to get any true conception of climate from a comparison of temperature charts alone. For instance, the annual mean temperature of Toronto is 45° and that of Calgary is 35°, and many people in the East and in England suppose, therefore, that Calgary is the colder climate. How different is the real state of things. Owing to the low humidity, and the greater diathermancy of the air in Calgary, the day temperatures are comparatively high; not only in summer but throughout the winter, and night temperatures low; therefore the mean is lower than in Toronto where the difference in day and night temperature is very much less. Again, situated as it is in the Chinook belt, continually warmed by the mild Chinook winds in winter, so that

snow rarely falls more than 2 or 3 inches, remaining only a few days, and good sleighing can rarely ever be obtained; Calgary has a mild enjoyable winter where cricket and tennis are usually played until January or February; and after a little cold in February and beginning of March, spring begins and by April is often well advanced as evidenced by the green prairie; the ploughing and seeding and the appearance of spring flowers. With strong insolation the days are always warm and pleasant, except for an occasional cold spell after a snow fall, throughout the winter. Although the nights are cold at times in the winter, this is an additional advantage in the summer when the evenings are always cool and bracing and even in the day time a pleasant coolness is always obtainable in the shade. The beauty and vigour of the climate all the year round must be experienced to be appreciated, and they depend on low humidity and quantities of sunshine.

The Chinook wind so often mentioned in connection with the Northwest is a remarkable balmy wind tempering the heat in summer and replacing the cold in winter causing snow and ice to disappear with marvellous rapidity, and licking it up like magic in a few hours. The explanations of the cause of the Chinook have been many, but two only, merit consideration; one, that it blows from over the warm Japanese Gulf stream across British Columbia and the Rockies to Alberta; the other, that it results from the removal of moisture from winds traversing the range as they ascend, leaving them drier and warmer to descend on the Eastern prairie. Moreover it is not necessary to assume that this wind has started from the Western side of the range, since over the Rockies is an area of high pressure in winter, whence, air descending having lost its moisture from condensation, is necessarily dry and warm. This same phenomenon, of a dry warm wind, may often be seen in the neighbourhood of a storm over regions at lower levels, both land and ocean, when moist air in front, after being carried up to rain or snow level and deprived of its moisture, descends drier and warmer on the opposite side of the region of central high pressure. Air may be supposed to have a potential temperature, namely, the temperature which two masses of air in different parts of the atmosphere, having different pressures, temperatures and amounts of moisture, would have, if brought to the same pressure. In an ascending mass of air, from the beginning of condensation of its moisture onwards, the potential temperature steadily increases by reason of the loss of this moisture, but in a descending mass of air the p.t., remains constant at the maximum value attained by it at the highest point in its previous path. This seems the truer and more scientific explanation of the Chinook wind. Whatever its explanation, its quality and its occurrence are very mani-

fest in S. Alberta and its effect on the climate is proved on the range and the cattle as well as on man and his health and spirits.

The general characteristics of climates at sea level and lower altitudes depend on a greater percentage of moisture, higher barometric pressure and higher winter temperature. It is the presence of the moisture which makes the winds so cutting, the cold so perceptible in winter, and it is again the high relative humidity which renders the summer heat so oppressive. Temperature unnoticeable or borne with ease in drier air is exceedingly trying in lower altitudes. It often feels colder at a few degrees below freezing in New York or Montreal than when the thermometer records 10° or 20° below zero in Alberta. Again, in New York or Montreal at a temperature of 80° to 90° in the shade, heat, owing to the humidity, seems unbearable while at the same or higher temperatures in Calgary there is no discomfort. Sunstrokes, heat strokes and thermic fever are of constant occurrence at these temperatures in Eastern provinces, especially in the larger cities, yet, despite the stronger insolation at higher altitudes, sunstroke, etc., are practically unknown. While the Pacific coast, owing to the warm gulf stream which washes its shore, does not have the cold winters of the Atlantic coast, the high humidity of its atmosphere renders it a most unfit climate for the tuberculous patient. There is a high rainfall, and evaporation being slow where humidity is high, there results a long continuance of most oppressive air. At higher altitudes such as Calgary, where the annual rainfall is only one-third or one-fourth of that at the coast, when it does rain the relative humidity is litttle raised, as the dry air admits of very rapid evaporation, aqueous vapour ascends, and the close oppressive feeling of a moisture laden atmosphere is not experienced.

Calgary climate is remarkable for its dry rarified air; quantities of sunshine—since less moisture means less clouds and less rain or snow—and a large proportion of cloudless days. Few are the days in the year when the sun is not in evidence for the greater part of the day, for the most part the sun shines all day long. The results of this climate on the tired worn out tuberculous patients or nervous invalid are wonderful to see, and the rapidity with which they regain physical strength and nervous power, with a corresponding improvement in their mental feelings and outlook, is marvellous.

Dr. P. H. Bryce, in "The Climates and Health Resorts of Canada," says:—"Whatever the physiological explanation, it is certain that the effects of the climatic qualities are to so promote nutrition and reconstruction of tissue that tuberculous cattle transported thereto from the

lower levels, and moister climates of old Canada, have rapidly regained flesh and remained for years in seemingly perfect health, while many a consumptive has found that in this climate his disease has been stayed and in not a few instances recovery has taken place. Once let the invalid so improve as to be able to ride his broncho over these measureless plains and enjoy the exercise while breathing the rarefied, ozonized air of absolute purity, and his recovery is almost assured. And it is just as certain, and he ought to know it, in order that his cure may be permanent, that continued residence in the climate for perhaps many years is essential, and indeed, in few places can existence become a more real pleasure than in this life of perfect freedom where he is in touch with nature in her everchanging moods."

Apart from its low density and rarefied condition the atmosphere of the Northwest is remarkable for its purity. It contains little organic dust, has a rarity of micro-organisms, and the actinic rays, which exert greater bactericidal powers, are particularly abundant as shown by rapid action of light on photographic plates. While daily winds are common, owing to the rapid change in density from strong insolation and the proximity of regions of high pressure in the Rockies, cyclones, blizzards, etc., are unknown and the winds are never violent or of long duration. Moreover it is to these prevalent winds and the constant change in the atmosphere combined with floods of sunshine, that its remarkable purity is to be ascribed.

The physical results of the above conditions are equally remarkable. Increased respiration, resulting from diminished density, favours development of respiratory muscles and expansion of chest and lungs, leading to hypertrophy of lungs and aiding the healthy lung by complementary enlargement to take over the work of its disabled colleague. Increased respiratory movements aid the circulation of the blood and lymph in the vessels of the thoracic and abdominal cavities. There is an increased heat production and an augmented metabolism rendered necessary by colder air as evidenced by an increased excretion of carbonic acid from the lungs.

Blood counts made at higher altitudes show an increase in red corpuscles, and the objection at first raised—that the difference was owing to an error in the methods used, due to the diminution in barometric pressure, has been shown to be invalid. It is found that with the increase in the numbers of red corpuscles, there is a commensurate increase in the percentage of hæmoglobin. These changes are in early periods of exposure to higher altitude peripheral only, but after animals have been kept there from eight to ten days an augmentation is observable in the number of red corpuscles found in the large arterial trunks. It is due

to an increase in the hæmatopoietic activity of the bone marrow. Increased appetite, digestion and nutrition are the constant results of these bracing influences. These bring about increased resistance to the disease, leading to destruction of bacilli and prevention of new invasion, while further progress of the lesion and further intoxication is opposed. Cicatrisation and ultimate recovery are thus made possible.

Invigorating and health-giving properties of sunlight are soon apparent in people who arrive in the Northwest and take full advantage of the climate. The pallor of the East soon yields to a healthier looking colour, faces become sunburnt and the general appearance assumes that of improved health. Improved tone and nutrition are moreover disclosed in the temperament as well as in the physical appearance. After life under cloudy sky and devitalising influences of humid weather the sun's rays affect, change, and have an important influence upon the physiological processes. Both analytic and synthetic processes go on in the full flood of chemically active light. In short, light is life, though of the exact nature of life we know very little. Modern discoveries are teaching us that the whole interest of nature lies in the perpetual degradation and change that are going on not only in the animal and vegetable but in the mineral kingdom. The very enjoyment and agreeable stimulation which we experience from sunshine are gained at a cost which means the sun's degradation. When that degradation is complete, life, as we understand it, must cease. For aught we know the sun may be a vast mass of radium which in the process of breaking down gives out heat and light—new elements appearing which possess no radio-activity at all. How immense and inexhaustible this energy must be, is well illustrated in the apparent permanence as regards thermo, and photo-activity of even one-thousandth of a grain of radium. Whether the sun's light and heat is a form of radio-activity or not, its beneficial influence is undoubted, and it is one of the most powerful therapeutic agents at our disposal in the treatment of tuberculosis, and the climate having the most sunlight and affording the most opportunities for taking advantage of it all the year round is the best for the tuberculous patient.

SANATORIUM TREATMENT.

The treatment of tuberculosis is now universally recognized to be the building up of the patient's system so that his blood and tissue cells may be stronger than the invading organism and can repair its accompanying conditions or results. This renovation is best attained by the free exhibition, under medical supervision, of open air, food and rest. Fortunately in a number of cases this treatment will bring about arrest and cure anywhere, and so far it may be said that no special

climate is necessary. But it is still more true that moist climates with little sunshine and high atmospheric pressure are not so inimical to the disease as a dry, rarefied sun-laden atmosphere, and that for suitable cases such a climate as that of Calgary is essential and may be claimed to be a specific. Since the majority of patients are unable to leave home or go far away it is fortunate that so much can be done. There always remain a minority who under the best conditions and most approved treatment fail to improve to the desired extent and it is these who, if sent away early enough to higher altitude, to a more stimulating air and sunshine, may yet permanently regain their health and happiness.

In addition there are the well-to-do patients who want the best climate and treatment to be obtained, who want it at once, and who won't be happy until they get it. People, as in the time of Naaman the Syrian, have more faith in going far afield and the mental satisfaction of knowing that the very best climate as well as other treatment is being obtained, has no small part in the process of cure. The good effect of an equable mental condition cannot be overrated. It is often most striking as is also the opposite condition. Pershing reports a case of hæmoptysis due to hysteria, and worry about illness may be more harmful than the disease itself. The baneful effects of worry over genito-urinary, syphilitic complaints, or heart disease, as well as tumours, etc., is well known and applies equally to that under discussion. The mental factor has a powerful effect on the functional dyspepsia so common in phthisis, while bodily relaxation and easy breathing are most useful to nervous patients for the development of that serenity incompatible with the intense emotion which leads to pathological results. We cannot abandon to fanatics and charlatans an agent so powerful for good as the principle of suggestion, but we must use it skilfully and scientifically for the good of the patient and to increase his self-reliance. The personal influence of a physician firm, positive, and tactful, is a powerful sedative which may even be soporific and anæsthetic. In a sanatorium is obtained the desired mental rest and encouragement and as a consequence the best results, provided only that an early diagnosis is made and the patient comes soon under treatment. Under daily supervision he is not so prone to overestimate his strength and improvement and to bring on by unwise exertion the relapse which is so often worse than the primary attack. Gradually trained to such exertion as his strength permits, and advised how much he may do, his progress on the road to health will not be slower but will be sure until at last he is able to resume with safety ordinary life and habits.

After recognition of the disease it is still necessary to carefully select the cases which should be sent even to a moderate altitude such as Calgary, and especially so before sending them to such altitudes as Colorado and New Mexico where at 6,000 to 8,000 feet they often get more harm than good.

UNSUITABLE CASES.

Acute miliary tuberculosis need hardly be mentioned as too severe a form to be aided by removal, and it is inadvisable for any patient to undertake a long journey while suffering from any actute attack, since, after its subsidence a better opinion of the amount of disease and chance of improvement can be given.

Fibroid disease, since, as in advanced emphysema of people over 50 the elastic tissue is destroyed and cannot respond to and expand with stimulation, is not usually benefited by rarefied air. Rapid breaking down is likely to be still further accelerated by altitude, although now and again, improvement has been observed.

Advanced cases, having kidney, intestinal or laryngeal complications do not well bear removal; nor do the cases of nervous irritability with marked tendency to hectic fever and a pulse frequently going over 115.

SUITABLE CASES.

Suitable cases, those which do well and improve rapidly and permanently are:—

1. Those with little more than a tuberculous tendency, the early cases in which, apart from constitutional premonitory symptoms, wasting, anæmia, functional dyspepsia, etc., there are few discoverable signs, little consolidation, little change in breathing, with, perhaps, slight hæmorrhage, the first suspicious sign. These almost invariably do well for altitude seems to have no contra-indication for hæmorrhagic tendency, indeed, on the whole, hæmorrhages are less frequent in the same patients at moderate altitude than at lower levels.

2. Subjects of catarrhal tuberculosis with little consolidation. Among these may be classed the subjects of bronchial catarrh and repeated colds.

3. Those having chronic inflammatory condition limited in extent.

4. Those having a more or less quiescent condition with lung movements limited by pleuritic thickening and adhesions. The lung movements under stimulation of rarefied air will be increased and the adhesions and thickening stretched and lessened.

5. Tuberculosis with nervous asthma in young people whose lungs have not yet lost their elasticity.

6. In addition to pulmonary tuberculosis other forms such as tuberculous glands, bones and joints, as well as children subject to scrofula, tuberculous tonsilitis and dental caries are much benefitted by change of climate.

7. Besides tuberculosis troubles various nervous diseases such as loss of power, nervous exhaustion or neurasthenia, effects of overwork, retarded convalescence, some cases of dyspepsia and hypochondriasis are permanently relieved by climate of higher altitude.

It should be added that those leaving home should do so for a considerable time, since the process of arrest and cure is necessarily slow, and provision should be made for maintenance for at least 12 months—$75 a month is not an excessive estimate for this and little current expenses although many manage with a less sum. It is a common experience that patients suffering from pulmonary tuberculosis who have improved considerably during treatment in a sanatorium, fail to maintain the improvement in health, or even become worse than before when they return too soon to the conditions under which they became ill. It requires a prolonged stay for a case to become entirely quiescent or obsolescent. The outdoor occupation, possible in the Northwest for those whose illness has been contracted in unhealthy surroundings or climate, is another attraction preventing the return to dangerous environment or occupation. To withdraw a man from the town and fit him to live by agriculture or other outdoor employment is to give the best chance of keeping well and robust.

As well as providing for maintenance, sufficient and suitable clothing should be brought along. Flannel or wool underclothing, to protect against the coolness prevailing in the shade at night, is usually the best for all the year round. It need not be very heavy, since this embarrasses breathing and leads to over-heating and perspiration. Above all, the pernicious chamois chest protector, or vest, should be avoided.

For women, short skirts are essential for walking and hill climbing. Heavy skirts should be supported from the shoulder. Waist bands must allow free and easy breathing. One or two cushions will add greatly to comfort. For winter, should be provided a fur coat and one or two warm rugs, that sitting out at any time may not be interfered with.

With these precautions, and so prepared, the climate of Calgary can be enjoyed at all times and will be found equal to any in the world for tuberculosis. The Canadian will find himself among fellow countrymen, and under his own flag, with congenial surroundings. He will, therefore, in every way, have the best chance of regaining his health and strength, and add another to the great number of those who are in themselves the best proof that there is something in climate,

especially Calgary climate, which may be regarded as specific in the treatment of tuberculosis.

I have not burdened my paper wth references in its course, but must express my indebtedness to various sources, including Dr. Bryce's "Climates of Canada", S. Cohen's "Climatology", articles on Climate and Meteorology in the British Encyclopædia, as well as various articles in medical publications and journals by Pershing, Earl Bullock, Burney Yeo, Kinghorn, Elliott and others.

EPIDEMIC DIARRHŒA,

BY

T. A. STARKEY, M.B., Lond.,

Professor of Hygiene, McGill University,

Montreal.

The present communication contains some observations upon the causes of epidemic diarrhœa amongst infants, and the influences bearing upon the disorder. For our present purpose we shall include the diseases named gastro-enteritis, enteritis, entero-colitis, infective enteritis, infantile diarrhœa and cholera infantum, leaving aside typhoid fever and dysentery.

The records which I shall lay before you are compiled from the deaths due to these diseases reported in the city of Montreal. They are records of *deaths*, not *cases* of disease, but as we have no other means of gauging the distribution of the disease, it is quite fair and safe to presume that where the disease is prevalent there the deaths will occur.

The records deal with 812 deaths, rather more males than females, 460 and 352 respectively. The vast majority of cases occur during the first five years of life, very few indeed above that age, and about two-thirds within the first 18 months.

From the death registers we notice that the cases of epidemic diarrhœa commence about the end of May, and continue through the summer, reaching their highest number in the month of July, and finally disappearing about the middle of September. These returns show us that the course of the disease in Montreal is precisely the same as in any other part of the world as regards season and prevalence.

I propose, therefore, to give you the results of my investigations as to the causes or influences at work in Montreal, which favour the propagation of the disease and I shall confine myself chiefly to the public

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health point of view, because the time at my disposal prevents me entering into the question from a pathological standpoint.

I have here a map of the city of Montreal, on which I have recorded in red the deaths reported due to epidemic diarrhœa during the year 1903. You will notice that the red dots occur in clusters and are quite unevenly distributed, and if you examine the map closely you will perceive that a few particular streets are the ones chiefly involved.

Now, there is obviously some reason for the disease picking out these particular areas.

Firstly, these areas do not correspond in any way with the distribution of the water supplies, so that we can safely dismiss that as a probable factor. If it were water we should have a much more general distribution.

Secondly, these areas on inspection turn out to be parts of the town in which we have low class property, narrow lanes and blind alleys, back to back houses, abundance of filth from house refuse and bad sanitary arrangements.

In nearly every place we found a small shut-in court, the houses arranged around it, with a narrow entrance to the court yard. The surface of the yard was quite unpaved and no provision for efficient drainage. In addition to this, as a rule, the court was very filthy from house refuse of all description. These courts can in no way be efficiently ventilated, seeing that it would be very difficult for any wind to get in and stir up the atmosphere; also being so shut in there was a very marked absence of sunlight. Under these conditions it was very obvious that dust carrying infectious material might be stirred up and would hang around in a cloud, and find its way through the open windows into the rooms bordering these areas.

We have other property in Montreal equally poor class, with equally poor and squalid inhabitants, but situated in cleaner and more open parts of the town, as in Westmount and the west end of city—where the sanitary arrangements are much better.

Thirdly, food supplies are pretty much the same all over the city for this class of people, and no connection exists between the distribution of food supplies and the cases of epidemic diarrhœa. By this I wish it to be distinctly understood that I do not refer in any way to the storage of food stuffs in any place situated in the affected areas, but to the centres of distribution of food stuffs, as in milk shops and markets.

I hope to show later on that the food stuffs, as stored in the houses on these areas, are probably the chief channel by which the infectious matter gains admission to the intestinal tract. In this connection it

MAP OF
MONTREAL
Electric Car Lines shown thus
Mile End Station
Côte Ste. Catherine Road
Côte des Neiges Cemetery (R.C.)
Mount Royal Cemetery (Protestant)
Mount Royal Park
Westmount Park
Lafontaine Park
Pacific Railway
Canadian Pacific Railway
Grand Trunk Railway
Guard Pier
SAINT LAWRENCE RIVER
Scale
Mile
Ile Ronde
St. Helens Island Park
Victoria Bridge
Nicholets Station
REFERENCE
1 College of Philosophy
2 Franciscan Fathers Monastery
3 Grand Seminary & Hotels Dieu
4 Grey Nunnery
5 C.P.R. Windsor St. Station
6 Windsor Hotel
7 Queens Hotel
8 St. James Cathedral
9 Y.M.C.A. Building
10 McGill University
11 Royal Victoria Hospital
12 Victoria Rifle Armoury
13 Christ Church Cathedral
14 Royal Victoria College
15 Baron de Hirsch Institute
16 Art Gallery
17 St. James Methodist Church
18 Church of the Jesuits
19 Hotel Dieu
20 Board of Trade Building
21 Customs House
22 St. Lawrence Hall
23 C.P.R. City Ticket Office
24 Post Office
25 Bank of Montreal
26 Church of Notre Dame
27 General Hospital
28 Volunteer Armouries
29 Court House
30 City Hall
31 Nelson Monument
32 Chateau de Ramezay (Museum)
33 Bonsecours Market
34 Our Lady of Bonsecours
35 Mount St. Louis Institute
36 Laval University
37 C.P.R. Place Viger Hotel and Station

is to be noted that the majority of cases occur amongst infants whose dietary is very limited, of which milk forms the staple article.

Hope, of Liverpool, showed by the statistics there, that a very large number of the cases of epidemic diarrhœa occurred amongst infants who were hand fed and not breast fed. His observations have been confirmed over and over again. By this process of exclusion one is brought down to a consideration of the *soil conditions* in and around the houses situated on these areas.

Inspection shows that the *composition* of the soil differs little in the affected areas as compared with neighbouring lots where the disease is not common. As a rule it is of a loamy nature. We know that such grounds as clay and rock do not favour the disease, but that porous loamy soils, gravelly and sandy soils, do. Still there must be something else in addition, because there are plenty of other places in the city with loamy soils, in which epidemic diarrhœa occurs but rarely.

Again, the formation of the ground must be taken into account. It was found that those areas in which the disease is rife are *all low lying* as compared with the surrounding places. By this, one means that the area under consideration would have a tendency to receive sub-soil drainage from the areas immediately around. There is generally a well marked hollow, as in a portion of Beaudry and Sanguinet streets. This undoubtedly favours drainage of the subsoil water towards this hollow, and if the soil contains polluting material, this will naturally drain towards the same level.

We have already seen that there is in every instance an abundance of house refuse lying thick all over the ground around the houses in these areas, and this refuse is particularly rich in putrescible organic matter; hence the ground itself must be very rich in this material.

Another weighty fact brought to light during these investigations is that the drainage of these districts is bad. For instance, absence of drains showed that slops thrown on the ground would not be conducted along to the sewer, or defective leaky drains tended to soak the ground with sewage.

Privies or cesspools are more often than not to be found in these areas, and as these offer exceptional facilities for the draining away of the liquid contents into the adjacent soil, it follows, therefore, that the soil in these areas must be badly contaminated by all this drainage which it receives, and by the solid refuse which is allowed to collect upon the surface.

I may here mention an interesting fact showing at least that this drainage question has some distinct bearing upon the dissemination of the disease. Near Atwater Avenue there is an area in which the privies

and bad drainage were at one time very common. During the last few years they have been clearing them away, though they still exist in Albert St., Seigneurs St. and Lusignan St. In the adjacent streets of Fulford, Canning and Chatham, all privies have been cleared away, and the sanitary conditions are much improved generally. The houses themselves are practically unaltered and the inmates are of the same class as before. Now cases of epidemic diarrhœa are not at all numerous in these streets.

It is thus proved that the soil in these areas is badly polluted and particularly rich in drainage matter. This organic material is very rich in micro-organisms, chiefly those found in sewage.

A good deal of work has been done upon the isolation of organism and identifying them as the cause of the disease. It has been abundantly proved that a variety of organisms are capable of causing epidemic diarrhœa. These are [1] Saprophytes; lactic acid group and proteus group: Pathogenic [2]; colon group, B. Ent. sporogenes. Most of the organisms isolated are of the *œrobic* variety.

From conditions which we find existing at times of diarrhœa epidemics we shall see later that one would expect a considerable number of *anœrobes*, and I shall hope to show at some other time that these anœrobes ought to demand more of our attention as causative factors in epidemic diarrhœa.

From the seasonal curves we see that climatic conditions are very important. As is well known, temperature and moisture play an important role in these epidemics. Ballard was the first to prove conclusively that it was only when the temperature of the earth at a depth of four feet reached 56° F. that the disease spread at all. He showed also that the temperature at this depth is only influenced after several days by atmospheric temperature. so that an occasional daily variation has no effect upon it.

Wind and rain interfere very much with the spread of an epidemic, allaying the dust and washing it away, besides cooling the ground if continued for some time. Although present in dust the organisms are prevented from flying about and settling on food.

We have thus the following conditions; a soil rich in organic material, loaded with organisms, warm and moist, all conditions favouring the growth of microorganisms, and amongse them those causing epidemic diarrhœa.

The next thing to settle is how they gain admission to the alimentary tract. I have already pointed out that the places most affected are those in which we have alleys, courts, very dirty ordinary soil surfaces, unpaved, shut in so that there is no external ventilation whatever, and

overcrowded unsanitary houses all around. The organisms in the soil find their way into the air as dust, and so contaminate the food stuffs stored in the houses, and I feel sure that any conditions, such as paving yards and alleys, which prevent the dissemination of the bacteria bearing dust, will exert a marked influence for the better upon the course of epidemic diarrhœa.

We arrive therefore at the following conclusions:

First:—Attention to external ventilation so that such things as blind alleys, closed in court yards should never be constructed or allowed. In this way the air ventilating the house immediately around would certainly be pure and free from infectious disease.

Second:—The proper paving and drainage of these yards would prevent the soil becoming badly polluted, eventually giving rise to infectious dust.

Third:—The removal of refuse is important, applying both to house refuse, which is found lying in these yards, in many instances forming foul heaps, and also to the removal of the liquid house refuse, namely that associated with drains, privies and cesspools.

Fourth:—Cleanliness; that is frequent and efficient washing of these paved yards, would lessen the incidence of disease.

These seem to be the vital things, because, it seems to me, that the prevention of food being contaminated is a much wiser procedure than to attempt to sterilise the food after it has been contaminated. At the same time one does not for a moment minimise the good results obtained by food sterilisation, because we all know that there are instances where food might be contaminated elsewhere than in the homes of the people, and under these circumstances only sterilisation before consumption would lessen the risk of disease.

ANGINA PECTORIS,

COMPLICATED WITH EPILEPSY AND CHRONIC MALARIA.

BY

J. HERBERT DAREY, A.M., M.D.

J. H. J., aged 57, came under my observation in the later part of November, 1903.

Family History: Father died at 35 years of age of consumption. Patient is the youngest child in the family. He has had three brothers, all of whom are dead, and one sister still living. One brother died at the age of 10 years, cause unknown. One brother died aged 25 years, two years after receiving a gun shot wound in the chest in the Civil

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War. Another brother died aged 47 years, of pneumonia. The sister who is now living at the age of 60 years, has been married twice, and has several children by both husbands. She is in a good state of health.

Personal History: Patient was always strong and healthy. He enlisted in the 8th Minnesota Volunteers in the Civil War and served three years. He has a hospital record for acute malaria and suffered from rheumatism. After being discharged from the 8th Minnesota, he enlisted in an artillery regiment in the regular service, and was honourably discharged in 1866, with a surgeon's certificate of good health.

For the following notes I am indebted to Dr. E. H. Dwelle, of Northwood, who attended J. H. J. in February, 1902. Previous illness:—rheumatism and malaria in army, has attacks of epilepsy, coughs every winter. Present illness:—severe cough for about four months, much expectoration, no blood, soreness and pain in region of spleen, sleep, appetite and bowels fairly normal, expectoration less now. Physical examination:—nutrition poor, loss of weight 20 lbs. since last summer, lung expansion poor, vocal fremitus increased on lower left lung, no rales heard, heart apex beat not visible nor palpable, pulse strong, regular, about 80, soreness and tenderness in abdominal muscles, liver enlarged, knee-jerk increased.

The above notes hold good for his present condition, except that he has not had so much cough this winter. He is troubled with a "chronic winter cough" however. For about 10 years after leaving the army he worked at his trade as a harness-maker, feeling fairly well most of the time, though he had spells when he felt very poorly. Probably this was due to exacerbations of his chronic malaria and attacks of chronic rheumatism. About this time he began to have attacks of epilepsy, from which he has suffered ever since, at irregular intervals. He has the "grand mal" or true epilepsy, falling over and becoming unconscious, biting his tongue, frothing at the mouth. Patient is married and has five children, two boys and three girls, aged from 22 to five and has the "petit mal" frequently, and this winter had one attack of "grand mal," falling unconscious out of doors, and losing quite a lot of blood from numerous scratches on his face, due to his having the convulsive seizure on the frozen ice and soil.

Present Illness: I was called to see J. H. J. on November 20, 1903, and found him suffering from an attack of angina pectoris. He had been feeling unusually well during the summer, but during the latter part of August and September, began to feel poorly. He had had three distinct attacks similar to the one in which I found him, for which he had taken no treatment. I found him suffering from a well

marked attack, with the characteristic cramp over the cardial region, pain running down the left arm and pulse feeble, about 76. I prescribed digitalin 1-60 gr, nitroglycerin 1-100 gr. and strych. sulph. 1-60 hypodermically at once, with sod. brom. gr. 10, tr. digitalis, m 10 every four hours, as he was very nervous, and ferri quin. et strych. citr. gr. iii t. i. d. as a tonic. I also ordered nitrite of amyl. in five minim pearls to be kept on hand, and used at once, in case he should have another attack.

December 9th, I found that he was having bad spells every other day and on questioning him closely learned that he had been laid up in hospital during the war with acute malaria. I diagnosed this condition of feeling poorly every other day, as due to chronic malaria, and put him on quin. sulph. gr. 1. t. i. d. and ordered him on the well days to take double doses. This treatment was attended with marked relief to the symptoms. I did not see the patient from Jan. 1st, to Feb. 1st 1904, when I was called in. I found him in fairly good condition. He had had no further spells of angina pectoris since December, and his chronic malarial condition was much improved. I had added liq. anrsenicalis m 5, to the quin. sulph. to assist him in getting rid of his malaria and this proved of marked benefit.

On February 7th, I was hurriedly summoned to see him. I went as quickly as I could, about half a mile to his residence, expecting to see him in an attack of angina pectoris, or perhaps dead. I found him suffering from a very severe attack. He was using nitrite of amyl. pearls by inhalation in a handkerchief freely. His nearest neighbour, a veterinary surgeon, happened to be there, to inquire how he was, and he proved of invaluable assistance to me. The patient was very nervous, shaking all over and hardly able to keep the handkerchief applied to his nose, for trembling. He was quite cyanosed also. He was sitting in the parlour and I thought it would be better to bring him into the sitting room, where there was a good fire. The veterinary surgeon and I took him each by an arm, and he was able to walk into the sitting room with our assistance. He kept on trembling violently and kept getting more and more cyanosed. The veterinary surgeon kept count of his pulse for me, while I was preparing to give him a hypodermic of brandy. While I was getting my syringe ready, he suddenly rose to his feet, and muttered something like "whiskey." He was entirely unconscious. I saw there was no time to be lost, so I grabbed the bottle of brandy on the table, and ran over to him, and tried to force it to his lips. He did not know enough to drink it, but was struggling with the doctor and me, shouting incoherently at the top of his voice. I had all I could do to hold his right arm, as he was swinging it violently about his head, like

a man waving his hat, and was cheering at the top of his voice. He was fighting the battle of Look Out Mountain, above the clouds. All this time, he was entirely unconscious, with his face black, cheering, swearing, fighting and struggling with us, so that we had all we could do to keep him quiet. I only managed to get him to swallow some brandy by forcing the bottle between his lips. He took several great gulps, about three ounces, I should judge, and then suddenly sat down exhausted. I expected to see him fall dead at any moment, for his pulse at the wrist was imperceptible. He gradually came to, however, and recognized us. He remarked that that was the best whiskey he had tasted since he was in Kentucky, during the war. I firmly believe that he would have died there and then if I had not succeeded in forcing the bottle into his mouth and pouring the brandy down his throat, when of course he swallowed it automatically. His face and tongue especially, were black for three hours afterwards. Luckily he has no teeth, or he might have bitten his tongue severely. I gave him a hot foot bath with mustard in it, in about an hour, for his feet were cold, and some more brandy when needed. He evidently had an epileptic fit, in conjunction with his attack of angina pectoris. I also shaved the back of his head up to the external occipital protuberance and applied a blister to it.

The aura of epilepsy always seems to start from his left side at the region of the spleen. Next day, when he had recovered from the immediate attack I examined his side and found that the splenic dulness extended six inches vertically. By pressing under his ribs I caused him to wince, this showing considerable enlargement of that organ. I applied a large blister of red iodide of mercury to the side, 1 drachm to the ounce and repeated it in a few days. I also put him on liq. arseni et hydrargyri iodidi, m ii. t. i. d. which he is taking yet, in addition to the quinine. Since that time he has been gaining steadily, and has had no more attacks of agina pectoris, or epilepsy. As the weather grows warmer, I am confident he will improve more rapidly. His appetite is good, and he can do light work, but lifting of any kind hurts his side. The splenic dulness rapidly diminished. I feel sure that it is his condition of chronic malaria, with an ague-cake spleen that has caused his epileptic convulsions, as this is always the starting point of his attacks, and he feels sore in the left side for several days before the epileptic fit comes on. By judicious treatment I think his epileptic fits can be kept in abeyance, while his angina pectoris of course, is liable to carry hm off at any tme.

The patient though a poor man, a harness-maker by trade, comes of a good family. His case is certainly a most interesting one, from a medical point of view, and I think he could have been saved years of suffering and inability to work at his trade, had his condition of chronic

malaria been diagnosed and properly treated, and he could also have been spared the misery of being an epileptic for 30 years or more, and bringing into the world a family who all have a tendency that way more or less, and two of whom have epileptic fits.

VALEDICTORY ADDRESS, 1904,

BY

J. T. Halsey, M.D.

Gentlemen of the Graduating Class:—There falls to me to-day the privilege of addressing you in the name of the faculty, under whose guidance, you, for the past four years, have been working toward the goal, which to-day you have reached. There is perhaps a peculiar appropriateness in my being the one to welcome you into the honourable profession of medicine, for, as you know, your and my connection with the McGill School of Medicine began, as they are ending, together.

Most addresses to graduates in medicine give expression to sentiments dealing with the nobility of the high calling of medicine, and of the great opportunities open to those practising the healing art, sentiments which you have heard or read so often that they may strike you as platitudes. But platitudes are often the very crystallization of verity, and there is nothing in this universe truer than the statement that a competent physician who practices his art diligently, conscientiously, and unselfishly, can do more than almost any other man to lessen the sorrow and suffering, and to increase the comfort and happiness of his fellows.

Robert Louis Stevenson, who as an invalid for many years, had exceptional opportunities to learn to know physicians, and their works has written in his Dedication to Underwood a tribute to our art which is, to my mind, as true as it is beautiful: "There are men and classes of "men that stand above the common herd: the soldier, the sailor and "the shepherd not infrequently; the artist rarely.....: the physi- "cian almost as a rule. He is the flower (such as it is) of our civiliza "tion; and when that stage of man is done with, and only remembered "to be marvelled at in history, he will be thought to have shared as "little as any in the defects of the period, and most notably exhibited "the virtues of the race. Generosity he has such as is possible to those "who practice an art, never to those who drive a trade: discretion "tested by a hundred secrets; tact tried in a thousand embarrassments; "and what are more important, Herculean cheerfulness and courage. "So it is that he brings air and cheer into the sick room, and often "enough, though not so often as he wishes, brings healing."

In the name of those, who, for four years, have striven to aid you in

acquiring the essentials of medical knowledge, I congratulate you on the successful completion of your arduous and difficult course of studies, and, having watched you closely and sympathetically during this time, commend you for the industry, intelligence and devotion with which you have laboured. As a member of the Medical Profession, I welcome you into the ranks, hoping that you may find therein success, honour, and contentment in the degree which individually you may deserve. At the same time I would bespeak from you your best efforts for the maintenance of our profession on a high level and for the advancement of its truest interest.

Those who have actually practised medicine and attained success therein are far better qualified to address you on such an occasion as this, than I am, who must speak chiefly as academician, but I will ask you to hear me patiently and, if there be grains of sense in my words, to sift them from the chaff and weigh them well. None of you need be told, that although you have no more examinations to pass you will still have much to study and learn, and that if you do your full duty you will cease to be students only when your life-work is done. May I make a plea that in your future studies you do not neglect the two fundamental subjects of physiology and pathology? In one sense, the practice of medicine is only a practical application of these two branches, and it is my firm conviction that correct and exact physiological and pathological knowledge, carried into the consulting room and to the bedside, will point out to you the true road, not only to correct diagnosis of ailments and proper appreciation of conditions, but also to the chief goal of the physician, helpful treatment of your patients. Such knowledge must also enable you to steer the correct course between the extremes of therapeutic nihilism and credulous empiricism.

In spite of the knowledge already acquired by you of the actions and uses of our various remedial agencies, it will be necessary for you to obtain for yourselves a practical opinion of their comparative value and efficiency and of the indications for their use. Unless you especially direct your attention to this phase of your work and systematically observe and record the results of the use of your drugs and other remedies, you will run a very great danger of obtaining false impressions instead of firmly founded convictions relating to this most important part of your vocation. The substitution, on the part of many eminent physicians, of loosely remembered impressions for clearly recorded observations, is undoubtedly responsible for a widespread belief in many chimerical methods of treatment.

Another suggestion is that those of you, who wish to keep your intellectual machinery smoothly and accurately running, should pick out

early in your career some especial field of interest, and endeavour as far as possible to acquaint yourselves thoroughly with it and keep yourselves completely informed of progress made therein, so that you may feel that you are in a measure, authorities in at least one field of medical science. Such especial fields are those dealing with diseases of metabolism, matters of public health, dietetics, or the vast subject of immunity and allied processes, which at the present time so dominate medical thought throughout the world. It will not be easy for a man settled far from medical centres and earning but a scanty livelihood to carry on successfully such study, but that it is possible is proven by many a man who has contended successfully againt just such difficulties. Those of you, who many settle in towns where there are medical schools or hospitals, can in no way more certainly assure your intellectual progress than by associating yourselves with such institutions, and, although working only in the most subordinate capacities, devoting a large proportion of your time to your duties there. You all know so well the value of one or more years' residence in hospital, of time spent in the medical centres of the old world, getting at the same time new experience and knowledge and a different point of view, that it would be a waste of words to more than mention these matters. You will perhaps excuse a special plea for advanced study for the branch of medical science which has most interested me, namely physiology, and allow me to quote two of the foremost clinicians of our time to the effect that the hope of clinical medicine and treatment lies in the study of physiology.

What has been said thus far has been in the nature of suggestion as to how you may increase your purely medical qualifications, but there are other sides of the intellect and character which must be developed in order to fully form the physician. In the past four years, overwhelmed as you have been by the colossal task of learning the essentials of medical knowledge, few of you have been able to pay much attention to intellectual growth in other directions. In the next few years you will often be afflicted by all too much leisure, a part of which cannot be better utilized than by developing yourselves on other sides than the medical one. Seek good society, read a fair amount of good literature, hear good music, if you have both taste and opportunity to do so, and endeavour to learn to know human nature both through social intercourse and through books.

At the risk of wearying your patience I would like to speak briefly of some of the civic opportunities and duties of physicians. Public opinion and action on matters affecting public health must be largely formed and guided by the members of the medical profession. If, in

later years, your community be visited by a typhoid epidemic or be devastated by some other preventable disease, you will be directly accountable, to yourselves, for the misery and sorrow enjoined thereby, unless you have continuously and with no uncertain voice protested against the conditions responsible for the trouble. Do your part and more, in the fights being waged against tuberculosis, sweat shops, unsanitary dwellings, impure food, intemperance, and other social evils. Inform yourselves as to the care of the insane and the indigent or criminals in that part of the world where you are working, and then try to do something to better any abuses connected therewith, which are, in so many places, a menace to the well being of the community and a blot on its civilization.

The laws governing medical practice and admission to practice are, almost everywhere on this continent, in a most unsatisfactory condition. Recently there have been attempts made by the licensing boards of certain states and provinces to usurp the functions and prerogatives of the teaching bodies, in that these boards have taken it upon themselves to prescribe not only the subjects to be studied but also the number of hours that shall be devoted to the study of individual subjects of the medical curriculum. I quote from a circular of one such board, the number of hours which shall be devoted to the study of that branch of medical education, with which I have myself been identified. The licensing board of one of the United States prescribes that applicants for a license to practise medicine in that state shall have heard didactic lectures on that subject amounting to at least 264 hours, and that they shall have spent 30 hours in laboratory courses dealing therewith. It goes even farther and demands that of this time certain proportions shall be devoted to different sub-divisions of the subject; for example, 24 hours to didactic lectures in dietetics, and 30 hours to lectures on electro-therapeutics. This is no time to give other figures, but it may be stated in passing that this body, composed chiefly of men not engaged in teaching and therefore ignorant of the various problems connected with medical teaching has drawn up a schedule of lectures, clinics and laboratory classes amounting to over 4,500 hours of required exercises, exclusive of practical dissection: in other words, if the student's course extend over four years, of the length of the McGill teaching year, he must spend 42 hours weekly in attendance on laboratory classes, lectures and clinics; that is to say, from nine to one and from two to five six days in the week. Where he is to get time to dissect or to work in the hospital ward or out-patient departments, I leave the sapient members of this board to answer. You, as members of the medical profession, will have opportunities to exert your influ-

ence in such matters as this and it is to be hoped that, remembering your own student days and those who have laboured to aid you in your preparation for your life work, you will protest against such abuses.

And now, gentlemen, an end to advice and suggestion. We, who in the past have been your teachers and are now your colleagues wish you God speed in the life which lies before you, we shall be interested in your welfare and be glad to greet you should you in the future visit us either at old McGill or elsewhere.

Mr. Dean and Gentlemen of the Faculty and teaching staff of the McGill University School of Medicine: On this occasion, I formally take my leave of you. Allow me to express to you in a few words my appreciation of the privilege and advantage which I have enjoyed in the four years in which I have been associated with you in your honourable work of medical education. Although this association has been one of but short duration, it has been one which I shall always value highly, not only for the opportunity which has been of such importance to my own development and education, but also because of the pleasant associations, and, in many instances, valued friendships which I have formed among you. Although I am severing my connection with McGill, let me assure you of the continuance of my sincere interest in its future progress and welfare. May this interest plead as my justification if I venture on this, the last occasion on which I speak as one of you to offer a suggestion for your consideration. It is, I believe, your unanimous opinion that our present four years course is all too short a time for the proper education of medical students. A five years course is unfortunately at the present time out of the question for reasons which need not here be discussed. We have, however, in Montreal, it seems to me, a unique opportunity to overcome at least in part this difficulty, in that its summer climate is one which does not necessitate a fleeing to the mountains or to the sea as is the case with so many other cities. I know of no other medical school of the first rank on this continent of which this may with truth be said, and there lies, in my belief, the exceptional advantage of McGill. May it not be feasible and highly advantageous to institute, in some form or other, a summer term during which our students and perhaps students from other schools may have an opportunity to supplement or review the work of the regular session? I would suggest that, in its inception, such summer teaching be of an extra mural character, that it be done entirely or in large part by the capable junior men, who abound in this community as in few others of like size, and that the taking of these courses by the students be purely optional.

If you find it wise and expedient, the work done by the students

during this summer term, under teachers approved by the heads of the various departments, might be accepted in lieu of work done during the regular session, thus removing something of the burden of work from their over-taxed shoulders. The advantages to the students of such a plan are so manifest that it would be superfluous to discuss them. Those to your junior colleagues are perhaps less obvious, but no less decided.

Such courses would offer to the younger men the opportunity of teaching independently the subjects in which they are most interested and of demonstrating to you their ability or lack of ability as teachers. Those giving these courses would also be gainers in two other directions. The teachers are usually the best taught of the class, and the fees, which they would receive, would be most welcome and valuable additions to incomes which are rarely plethoric. May I trust that in proposing to you this plan I have not seemed presumptuous and ask of you that you consider its feasibility and its desirability?

And now, before bidding you farewell I wish to offer my sincere thanks to you for the opportunities which I have enjoyed during my term of service at McGill, and express my individual gratitude to those among you, with whom I have been most thrown and from whom I have received both in and out of the college so many kindnesses. More particularly I would wish to take this opportunity of expressing publicly my sense of deep indebtedness to Dr. Blackader for his constant kindness.

At this time too, I would wish to acknowledge my debt of gratitude to Mr. David Morrice, through whose generosity the Eddie Morrice Research Laboratory was equipped, and he has also contributed to the support of the department. Although the tangible results of the work, which by his timely gift was made possible, are neither so numerous or so important as I should have wished, yet I do not think I err in believing that the establishment of this laboratory and the inauguration of the teaching and other work done there have been of advantage to this school and its students. May his generosity be imitated by other friends of the medical profession!

Although leaving this school my interest in its progress and welfare will always remain a lively one. May it continue in the future as in the past to send out yearly its quota of well trained and capable physicians to uphold its reputation throughout the land. May generous friends in the future as in the past come to its aid with monetary assistance in order that it may continue in the van, not only as a school for the education of physicians and surgeons, but also as a school doing its part in the advancement of medical science and the increase of knowledge of diseases, their nature, prevention, and cure.

THE

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EDITED BY

JAMES STEWART, GEO. E. ARMSTRONG
A. D. BLACKADER, J. GEORGE ADAMI,
G. GORDON CAMPBELL, WILLIAM GARDNER
FRANK BULLER, F. G. FINLEY,
H. A. LAFLEUR, F. J. SHEPHERD,

ANDREW MACPHAIL Managing Editor.

WITH THE COLLABORATION OF

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W W. CHIPMAN,

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THE MEDICAL CONVOCATION.

The seventy-fifth annual convocation of McGill University for conferring degrees in the Faculty of Medicine, which was held in the Windsor Hall on June 10th, differed in some respects from preceding ones. The number of graduates was eighty-two, last year it was an even hundred. The ceremony of convocation is an important one in the life of the student. It is the one to which he looks forward; it is the last which he remembers. We are continually saying, that the graduation should be accompanied by a full show of academic pomp and dignity, which would impress the imagination of students, graduates, and the public alike with the importance of their university. It should be conducted within the walls of the university,—that will come in good time when a worthy hall of ceremony is provided.

The attendance of the public, either in respect of numbers, of quality or of sex, was not imposing, and the greater part of those present did not appear to find the proceedings very interesting. It is a great

stimulus of curiosity to an audience to hear what is being said. If it is not possible to adjust the voice to the size of the hall, an obvious remedy would be to provide a smaller meeting place. The sentiments, which were uttered by the valedictorian for the students, were inaudible to most persons, and even Dr. Halsey's address was largely unheard. The vice-principal's voice rang through the hall, which shows that the thing is not impossible, but as he spoke chiefly in the latin tongue, the situation was not much improved.

Something is also to be said about the attendance of the various elements which make up the corporation of the University. The Visitor and Chancellor were absent as a matter of course. The Principal was in the United States attending another function. Of the fourteen Governors, one alone was present, Judge Archibald, who presided with great decorum. Of thirty-nine Fellows, there were but two; and of the Officers of Instruction, who number considerably over two hundred, only twenty-five attended. At no time did the total representation rise above thirty-two; towards the end of the proceedings it sank to less than twenty. If the undergraduates were present, they concealed themselves most sedulously.

The memorandum, which was read by the Dean for Dr. Craik, was an important document, as it set forth clearly the present situation of medical education in the province of Quebec, and contained the suggestion, which many have felt for a long time, that the whole matter should be put upon a different footing. Dr. Craik proposed that medical education should be regulated by two separate boards, as is done in the case of the public schools. The recent performances of Mr. Taschereau and Dr. Lacombe in the legislature have aroused a spirit of revolt against the present arrangements. It is intolerable that the whole system should be thrown into disorder every year, and that the energies of the university should be consumed in setting it right for another twelve months. The present joint board would do well enough, if the legislators would leave us alone. If they do not leave us alone, the movement originated by Dr. Craik will receive such force that it cannot be resisted. Then the question will be settled forever; if not in the best way, at any rate it will be settled.

THE CIGARETTE.

A bill to prohibit the importation, manufacture or sale of cigarettes in Canada was introduced in the Dominion parliament by Mr. Maclaren, of Huntingdon, and received its first reading on June 2nd. It has since been read a second time. If this bill become a law, it will then be a criminal offence to have in one's possession a single cigarette.

In the words of the bill: "No person, by himself, or by his clerk, servant, employee or agent, shall, for himself or any one else, directly or indirectly, or upon any pretence, or by any device, manufacture, sell, expose, keep, or offer for sale, or give away any cigarette, cigarette papers, or cigarette wrappers or any substitute for such wrappers, or shall keep or own, or be in any way concerned, engaged or employed in owning or keeping, any cigarettes or cigarette papers or wrappers, or shall authorize or permit any of these things to be done. No cigarettes, cigarette papers or wrappers shall be imported into Canada or entered for consumption therein, and all cigarettes, cigarette papers or wrappers, or papers intended as such, shall be subject to seizure by any officer of Customs or Inland Revenue."

The bill further provides: Any person who, by himself, or by another, contravenes the provisions of this Act in any manner shall incur a penalty not exceeding one hundred dollars, and not less than twenty dollars, for a first offence, and in default of payment shall be liable to imprisonment for a term not exceeding six months, and not less than one month, and for a second offence he shall be liable to imprisonment, without the option of a fine, for a term not exceeding one year and not less than six months."

Legislative folly could go no further. It is as well that the bill should pass. It will not be obeyed, and the penalties will not be enforced. The law will serve as a warning to foolish persons that there is a limit to their capacity for interfering with the private affairs of their fellow men.

The parliament has agreed to treat the thing as a jest, but it is a mischievous form of humour as it serves to bring all legislation into contempt. The prime movers in the matter appear to be a body of women, who have never demonstrated their capacity or willingness to attend to those functions for which that portion of the human race was mainly designed. Women who have attended to the greater matters of the social law are not usually those who concern themselves over so small a thing as a cigarette.

VOLUNTARY ADMISSION TO ASYLUMS.

The most trying cases with which the general practitioner has to do are those on the border line between sanity and insanity. Practically every patient who finally enters an asylum has passed through that stage. Even if his physician had recognised the condition at the earliest possible moment, he was unable to avail himself of asylum treatment.

Under the present statutory regulations a patient cannot be admit-

ted to an asylum until his disease has fully declared itself. All alienists agree, that the best remedy for insanity, lies in an early recognition of the disease, and prompt treatment by hospital methods. The law proceeds upon the theory that a patient may not be admitted until he is practically incurable. This is a result of the policy of slander, which used to be carried on against asylums by vicious or wilfully ignorant novelists for their own purposes.

The remedy lies in permitting patients to retire to asylums, when the first symptom of their malady is observed, and that principle is freely admitted in many parts of the United States. In this province, indeed, some superintendents have admitted such cases, and from information received from the attorney-general it appears that they are not contravening the law. But this is not enough. Even if a patient is admitted at his own request, upon the advice of his physician, he is free to leave at any moment which his own unbalanced judgment suggests to him.

The attorney-general has the matter under advisement, and if the wisdom of introducing a provision into the law, by which patients may be permitted to enter an asylum voluntarily, and there remain at the discretion of some authority outside their own whim, then he is willing to sanction such an amendment. The superintendents of asylums should get together; they should consult with the medical societies, and obtain the experience of other communities for the benefit of the legislature.

Such a provision would be of incalculable good in all cases of mental disturbance, whether due to organic disease, or induced by the excessive use of intoxicants or narcotics. The best information is that before another year we shall have an amendment to the law, which will permit of such cases being effectually dealt with.

FRENCH-SPEAKING PHYSICIANS.

The second congress of French speaking physicians of North America, which assembled in the halls of Laval University on the 28th of June, passed off with great *éclat*. The attendance was large, and was not confined to physicians speaking the French language, as many of the sister societies accepted the invitation, which had been so courteously extended, to send representatives to the congress. France sent an official delegate, Professor Pozzi.

On Tuesday morning, Dr. Foucher, the president, opened the congress; the general secretary read the annual report, and the sections proceeded to work. In the evening a formal meeting was held, at which Archbishop Bruchesi and Lieutenant-Governor Jetté presided. The

University extended a cordial welcome, and the delegates and representatives replied. A reception followed, at which many ladies were present. After a day spent in meetings of sections and committees, the members held a very successful banquet and concert of music at the Place Viger Hotel on Wednesday. On the following day the congress was closed with the election of officers and the usual formalities; afterwards there was an excusion by steamer down the Lachine rapids. This congress, though one of the youngest, gives promise of interest and usefulness to the medical profession.

CANADIAN MEDICAL ASSOCIATION.

The arrangements for the thirty-seventh annual meeting of the Canadian Medical Association, which is to be held in Vancouver, on on the 23rd, 24th, 25th and 26th of August, are so well advanced, and the response to the invitations to attend and read papers have been so free, that the success of the meeting is already assured. The railway fare from Montreal to Vancouver and return is only sixty-eight dollars, and it is expected that at least two hundred persons will take advantage of it.

In a previous number we gave rather a full account of the attractions which are offered to visitors in the way of excursions and trips from the main line, and the wide detours into new territories which may be made. Members who have not yet made arrangements for the trip and desire further information may communicate with the General Secretary, 129 John Street, Toronto.

The American Medical Association which met in Atlantic City on June 7th has 15,039 members. To give even an abstract of the proceedings of so large a body is impracticable. The meeting lasted four days, and being divided into numerous sections, the range of papers and discussions was very wide. Dr. Frank Billings, of Chicago, presided. Next year the president will be Dr. Lewis S. McMurtry, of Louisville, and Dr. G. H. Simmons, of Chicago, secretary. According to the very admirable reports appearing in the medical journals of New York, a large number of Canadians attended the meetings and took part in the proceedings. The next meeting will be in Portland, Oregon, and the address in surgery will be delivered by John Collins Warren, of Boston.

The untimely death of Dr. Rollo Campbell came as a shock to the whole community. Dr. Campbell contracted typhoid fever late in May, and at the convocation of his University, on the 27th of May,

grave fears were expressed of his recovery. These fears were realized on the following Monday, and the interment took place on the 2nd of June with the full military ceremonial. Dr. Campbell, from his long association with Bishop's College, the Western Hospital and military organizations had a wide acquaintance with the public, and his qualities of nature endeared him to those who knew him intimately. A full tide of sympathy has gone out to his honoured father, the Dean of Bishop's College.

A correspondent writes to *American Medicine*, Philadelphia, April 16th, 1904, that he recently sent a private communication to the editor of the Montreal *Daily Witness*, asking the question: "Are you aware that Peruna, advertised in your paper, has been analysed and found to contain about 50 per cent. of bad whiskey? I ask this, knowing your interest in the cause of temperance." The correspondent writes that the Peruna advertisement was promptly omitted in the further issues of the *Daily Witness*. He concludes by saying that "Such an instance of consistent and conscientious action on the part of a newspaper should, I think, receive some word of commendation from the medical profession."

Dr. R. Tait McKenzie has communicated to McGill University his intention to resign the position of Governor's Fellow, Lecturer in Anatomy and Medical Director of Physical Training. It is understood that Dr. McKenzie is to be appointed head of the department of Physical Education in the University of Pennsylvania, Philadelphia, with such other appointments as go with that position. The University of Pennsylvania has recently expended over half a million dollars in the erection of a department of physical education and Dr. McKenzie has been called on to supervise its equipment and organization.

The American medico-psychological association completed its 60th annual meeting in St-Louis on June 3rd. This is the oldest medical society in America, and was founded in the year 1844, as the association of medical superintendents of American institutions for the insane. Canada was poorly represented, only three members being present; but of these, Dr. T. J. W. Burgess, of Montreal, was elected president for the ensuing year. The next meeting will be held in San Antonio.

The University of Wisconsin, at Madison, celebrated its jubilee year during the first week in June. It is not a little remarkable that the representatives of British universities, who attended, were all members

of the staff of McGill. In choosing amongst its graduates upon this continent, who should represent it, Oxford selected Principal Peterson; Cambridge, Dr. Adami and Dean Bovey; London University, Professor McBride, and Victoria University, Manchester, sent Dr. Adami.

The degree of Doctor of Laws, which was conferred upon Dr. Trudeau, of Saranac, by McGill University, is a graceful tribute for his work in connection with tuberculosis. Dr. Trudeau, more than any other man, has demonstrated that consumption is curable and has brought hope to a multitude of sufferers and to their friends.

La Revue Médicale du Canada appears with a new editorial board, composed of Drs. L. E. Fortier, Damien Masson, A. Ethier, F. X. DeMartigny, W. J. Derome, general secretary, and P. P. Boulanger as manager. This journal appears weekly and reflects the activity amongst the French Canadian section of the profession.

Dr. Halsey's address at the medical convocation was his valedictory to the faculty as well as to the students. He left the same evening for Johns Hopkins medical school, where he will remain for a few months, until taking up his duties in September in Tulane University, New Orleans.

Reviews and Notices of Books.

GRAVES DISEASE WITH AND WITHOUT EXOPHTHALMIC GOITRE. By W. H. THOMSON, M.D., LL.D., Physician to the Roosevelt Hospital: William Wood & Co., New York, 1904. Toronto, Chandler and Massey.

Although, as the writer mentions, there are more than 1400 treatises on the subject of Exophthalmic Goitre, he has nevertheless afforded his readers a most lucid description of the malady in all its interesting clinical features, and the work is a striking example of the value of careful clinical observation and complete records. The author emphasises the fact that the constitution and general derangements are what make up Graves disease while the thyroid condition is after all but a secondary feature. He has collected the histories observed by him in 70 cases, and of these 28 presented general manifestations of the disease without the goitre. The author gives a list of 28 general symptoms apart from exophthalmos and enlarged thyroid, which are peculiar to the disease. The nervous system symptoms are considered in detail; the tachycardia is regarded as a toxæmic condition and its persistence is especially noted as characteristic. The various tremors

are dealt with and especially those of the eyelids which are almost a constant feature. Great stress is laid upon the gastro-intestinal disorders which appear very early in the disease, in fact in the majority of cases it had occurred previous to the onset of other symptoms. Dr. Thomson regards these as the essential features in the symptomatology and believes that toxæmic conditions arise from disorders of the gastro-intestinal tract and then give rise to exophthalmic goitre. Nausea, flatulence and diarrhœa are the main symptoms noted, and so long as the diarrhœa persists no headway is possible in the treatment of the disease.

Another clinical feature of importance is the morning exacerbation of symptoms, and this he regards as of almost pathognomonic significance. The pathology is discussed and the conclusion is drawn that: "The goitres, as such, are always secondary results of toxins acting on the gland itself, and that the great difference in the constitutional symptoms of exophthalmic goitre is due to the universally acting blood poison generated, just as in parenchymatous goitre itself, elsewhere than in the thyroid, but which involved the gland only as many other organs are affected." The origin of the disease being, in his opinion, gastro-intestinal, the treatment is mainly directed to this tract. Intestinal antisepsis is regarded by him as one of the essential features in the cure of the condition. Surgical treatment is considered at some length and the conclusions drawn are unfavourable towards this procedure. The risks are too great to justify operation in the majority of cases, while on the other hand medicinal measures when properly employed can in most cases obviate the necessity of surgical treatment.

Elements of General Radiotherapy, for Practitioners, by Dr. Leopold Freund, Vienna. Translated by G. H. Lancashire, M.D., Brux., M.R.C.S. Eng., L.R.C.P. Lond., Assistant Physician to the Manchester and Salford Hospital for Skin Diseases. Rebman Company, 10 West 23rd Street, New York. London Agents: Rebman, Limited, 129 Shaftesbury Ave., London, W.C. Toronto, Charles Wingate, 1904.

The general practitioner — and the expert radiographer also — may well study this volume, and be possessed of more knowledge, if less dogma.

The book is written by a master of the subject. His statements are clear and conclusive, his explanations of some of the less understood phenomena (e.g. the electrification of the ultimate atom or electron) are lucid, and the whole work free from the redundancy and interminable case reports so characteristic of some text books that arise to one's mind. While the work cannot fail to be of value to the large number

of practitioners anxious to have a definite and clear conception of therapeutic measure, rapidly coming more and more to the front, its chief results will be always obtained when used in conjunction with a course of electro-therapeutics, undertaken with the object of teaching the fundamentals of the subject.

In an eight page introduction the author gives a brief résumé of the position of modern science with reference to the later discoveries of radio-active substances, and the effect of these discoveries on electric and allied phenomena. Then follows a section on the elements of electricity, a marvel of condensation in which nothing material to the proper conception of the subject has been omitted.

High frequency currents and their therapeutic action cover 103 pages, and the section on Roëntgen or X-ray therapeusis takes another 164 pages. Becquerel-rays, perhaps more generally known as Radium-rays, occupy but 16 pages, and while not absolutely essential to the subject discussed, a reference to the three different varieties of rays isolated so far from the radio-active radium bromide would have been interesting, as offering a possible explanation of the resemblance in the action on the skin of the Becquerel rays and those generated in a Crooke's tube.

Radient energy in the form of light and heat take up 157 pages, and is very thoroughly done, especially the light effects: Finsen's ultra-violet rays, ordinary white, and different coloured rays are gone into pretty fully. A couple of pages of addenda on the dosage of X-rays has little to add, and is not so explicit as the rest of the book. For the beginner more data should have been provided, and the literature on this subject is not wanting, either in England or in the United States.

No practical worker on X-rays would trust to any "Spurtemeter" or "Radiochromometer," knowing as he would, the variety of tubes and currents and even the variations in the same tube and coil from time to time apart from the idiosyncrasy or personal factor in the patient. This is the only part in the book one could wish to see extended.

The notes on instrumentation, 58 pages, by Clarence A. Wright, himself an expert radiographer, are invaluable. A very full index, and bibliography, serve to complete a book that will doubtlessly occupy a unique position in the subject which it covers.

The printing, paper, and illustrating leave nothing to be desired, and the paper is not glossy. *R. W.*

THE EXTRA PHARMACOPŒIA, revised by W. HARRISON MARTINDALE, PhD., and W. WYNN WESTCOTT, M.B. Eleventh edition. London: H. K. Lewis, 136 Gower St., W.C., 1904.

Since the tenth edition of the Extra-Pharmacopœia was issued three

years ago, William Martindale, the originator of the book, has died, and the name of his son appears upon the title page in conjunction with that of Dr. Westcott which has been identified with it since the beginning, now more than twenty years ago.

A comparison of the present edition with the one next before shows many omissions and much new matter. Reference to many old drugs which used to be considered remedies is omitted and 300 new preparations are described, though the size and weight of the volume is less. The mass of recent pharmaceutical work has been abstracted, and there are fresh monographs upon radium, Roentgen rays, high frequency currents and their curative effects. There are also new sections upon mineral waters, bacteriology, antitoxins and organotherapy. The references are most useful and the present edition is entirely worthy of its predecessors.

Medical Diagnosis. By Dr. Wilhelm v. Leube. Translation from the Sixth German Edition. Edited with annotations by Julius L. Salinger, M.D. New York and London; D. Appleton & Co., 1904.

Leube's Specielle Diagnose der Inneren Krankheiten requires no introduction to those who are acquainted with German medical literature, and the carefully prepared work with its lucid style and excellent arrangement of the essential features of diagnosis has placed it in the first rank of German medical works. This translation of its sixth edition should be gratefully received by all English readers who cannot master the original. The new edition has been much enlarged and the translation carries out the author's arrangement of topics in variously sized types to render the essential features more striking. A special value attaches to the paragraphs preceding each general section, which deal with matters of general importance in diagnosis, as anatomico-physiological considerations of the digestive tract, of the nervous system, physiological observations on metabolism, general remarks on infectious diseases, etc. The book is useful to all physicians; perhaps, more especially, is its value to be appreciated by teachers.

International Clinics; a quarterly of illustrated clinical lectures and original articles: edited by A. O. J. Kelly, A.M., M.D. Vol. I. 14th Series: Philadelphia, J. B. Lippincott Company; Montreal. Charles Roberts, 1524 Ontario St.

These clinics are looked for with eagerness by every practitioner, who desires to know the best that has been done and thought in the past quarter of the year. The present volume contains that record, and, in addition is arranged with rare editorial skill. It covers treat-

ment, medicine, surgery, gynæcology, neurology and the progress of medicine and surgery during 1903. There are special articles upon the chlorid reduction treatment of parenchymatous nephritis, a clinical study of adonidin, the therapeutic application of colloid silver, and the cure of neurasthenia. The increased prevalence of pneumonia is considered, the application of cryoscopy to medicine, nephritis of gastro-intestinal origin and the early diagnosis of pulmonary tuberculosis. Under Surgery there is an ample review of angioma, of the methods of intestinal anostomosis; observation on gastric, intestinal and liver surgery as practised in Germany. The above covers only a portion of the contents; there is in addition a careful review of all methods of treatment of the more important disease, but it is sufficient to indicate the range and value of the volume.

Progressive Medicine. A Quarterly Digest edited by Hobart Amory Hare, M.D., and H. R. M. Landis, M.D., June, 1904. Lea Brothers & Company, Philadelphia and New York.

This volume, being the second for the year, appears promptly, and covers the surgery of the abdomen, including hernia, gynæcology, diseases of the blood, diathetic and metabolic diseases, diseases of the spleen, thyroid gland and lymphatic system, and ophthalmology. The contributors to the volume are John G. Clark, William B. Coley, Edward Jackson and Alfred Stengel. In the April number of this Journal notice was taken of Progressive Medicine in its altered form. The section by Stengel, upon diseases of the blood, etc., is especially worthy of note. We fail to find any mention of the progress of medicine as affected by work done in Canada.

Obstetric and Gynecologic Nursing. By Edward P. Davis, A.M., M.D., Professor of Obstetrics in the Jefferson Medical College: 402 pages, fully illustrated. Second edition, thoroughly revised. Philadelphia, New York, London. W. B. Saunders & Company, 1904. Toronto: J. A. Carveth & Co. Price, $1.75 net.

This book is intended for nurses in training for the care of lying-in women. Obstetrical nurses are ever prone to magnify their office, hence we question the wisdom or truth of the statement on the opening page, "few patients are so absolutely healthy that pregnancy and childbirth proceed in a perfectly normal way." The recital of the facts pertaining to the condition is clear and based upon sound physiological knowledge. The directions given are minute yet not excessively refined, and physicians as well as nurses would be profited by a perusal of this book.

THE CANADIAN ANNUAL REVIEW OF PUBLIC AFFAIRS, 1903. G. J. CASTELL HOPKINS. Toronto, The Annual Review Publishing Co., 1904.

This book of six hundred pages is invaluable to all who have occasion to refer to any of the events, which have happened in Canada last year. Nothing of importance is omitted and the record is presented fully and justly.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, comprising ten volumes, issued monthly. GUSTAVUS P. HEAD, M.D., Vol. V., Obstetrics. Edited by JOSEPH B. DELEE, M.D. April, 1904. Volume VI. General Medicine, May, 1904. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, 40 Dearborn Street, Chicago.

THE MOTHER'S MANUAL, by EMELYN LINCOLN COOLIDGE, M.D. New York: A. S. Barnes & Co., 1904.

ANNUAL REPORT OF THE SURGEON GENERAL OF THE PUBLIC HEALTH AND MARINE HOSPITAL SERVICE OF THE UNITED STATES, 1904.

Medical News.

THE MEDICAL CONVOCATION.

The seventy-second convocation of McGill University for conferring degrees in the Faculty of Medicine was held on the 10th of June in the Windsor Hall. Judge Archibald presided, and the degrees were conferred by Dr. C. E. Moyse, the vice-principal.

Eighty-two students, who had completed the full course and passed all the examinations, obtained the degrees of Doctor of Medicine, and Master in Surgery. Their names are as follows:

Ainley, L. J., B.A., Almonte; Ainley, W. E., B.A., Hamilton, Bermuda; Alford, J. H., Ottawa; Atkinson, H. S., Hants Harbor, Newfoundland; Bentley, S. K., B.A., Truro; Black, J. C., Oxford; Bonin, R. P., Montreal; Charman, F. D., Wallace; Chipman, W. W., Ottawa; Coffin, J. W., Mount Stewart, P.E.I.; Cook, W. J., Coboconk; Crack, I. E., B.A., Kingsbury; Cram, W. J., Philadelphia; Crosby, P. C., Marshfield, P.E.I.; Crowell, B. C., B.A., Yarmouth; Davidson, H. D., Sherbrooke; Dillon, W. P., Iroquois; Douglas E., B.A., Halifax; Dunn, J. F., Elgin; Eaton, C. E., Stanbridge; Faulkner, J. A., B.A., Stirling; Fisher, E. M., Blue Bonnets; Fisher, F., Bay of Islands, Newfoundland; Folkins, C. G., Millstream, N.B.; Ford, H. S., Vancouver; Fraser, S., Leeds; Fyshe, J. C., A.B., Montreal; Gibson, G. M., Huntingdon;

Gibson, R., Nanaimo; Gillis, J. E., Darlington, P.E.I.; Gilroy, J. R., Springhill, N.S.; Gormely, J. C., Finch, Que.; Graham, R. W., Sawyerville; Grant, N. P., Woodstock; Greenwood, W. T., St. Catherines; Harrison, J. L., B.A., Maccan, N.S.; Hogan, F. J., Tignish, P.E.I.; Hotchkiss, E. A., Collinsville, Conn.; Howitt, H. O., Guelph; Hutchinson, J. W., Montreal; Johnson, J. G. W., M.A., Montreal; Judson, A. H., Lynn, Ont.; Kerr, H. H., Washington; Keys, M. J., Hulbert, Ont.; Lauchland, L. C., B.A., Oshawa; Lincoln, W. A., Stanstead; Lippiatt, H. T., Montreal; Losier, A. J., Tracadie; MacKenzie, A. B., Springfield, P.E.I.; MacKid, L. S., Calgary; MacIntosh, L. de C., Dundela, Ont.; McKenzie, R. P., Rossland; McKenty, F., Bath, Ont.; MacLachlan, D. C., Lochaber Bay, Que.; Markson, S. M., Glen Robertson; Martin, J. C., Whitechurch, Ont.; Meakins, J. C., Hamilton; Miller, Clarence, Stellarton; Miller, V. L., B.A., Bear River, N.S.; Murphy, H. H., B.A., Antrim, Ont.; Nagle, S. M., Almonte; Nutter, J. A., B.A., Montreal; Park, A. W., Durham, Ont.; Preston, C. E., Ottawa; Price, Joseph, Campbellton; Quain, B. P., Brushton, N.Y.; Rankin, A. C., Montreal; Reford, L. L., B.A., Montreal; Richardson, C. A., East Jefferson, Maine; Richardson, C. A. C., B.A., Sydney; Robinson, J. L., St. Marys, Rogers, J. T., B.A. Montreal; Sellery, A. C., Kincardine, Ont.; Sims, H. A., Montreal; Stewart, J. A., Norboro, P.E.I.; Tanner, C. A. H., Windsor Mills; Warwick, W., St. John; Wilson, O. M., Smith Falls; Wilson, T. R., B.A., Carp, Ont.; Wood, H. G., Faribault, Minn.; Wright, G. A., Stoney Creek, N.B.; Yorston, F. P., M.A., Newcastle.

The Holmes gold medal, for the highest aggregate in all the subjects forming the medical curriculum, was awarded to J. A. Nutter, B.A., Montreal; the final prize for the highest aggregate in the final subjects was awarded to J. L. Robinson, of St. Mary's. The honour list in the aggregate of all subjects was as follows: J. L. Robinson, J. A. Nutter, B.A., W. A. Lincoln, J. C. Meakins, V. L. Miller, B.A., F. McKenty, J. C. Fyshe, A.B., J. W. Coffin, J. E. Gillis, J. A. Faulkner, B.A.

The address for the graduates was read by Dr. C. L. Robinson, and Dr. T. J. Halsey delivered the reply on behalf of the Faculty.

Dr. T. G. Roddick, the Dean, read the report of attendance, from which it appeared that the total number of students registered in the Faculty of Medicine was 415. In the first year were 108, in the second year, 106; in the third year, 88; in the fourth year, 100; graduates, 13.

In the absence of Dr. Craik, on account of illness, Dr. Roddick read for him a memorandum upon the subject of the preliminary qualification for the study of medicine, the text of which follows:

Before the proceedings of this convocation are brought to a close,

I have deemed it expedient to lay before it a brief statement of the relations between the College of Physicians and Surgeons of the Province of Quebec and this university, with its medical school. I do so, not as the mouthpiece of the university, nor of its medical faculty, but as one of the two representatives of McGill University on the provincial medical board, a position which I have held for more than twenty years.

The College of Physicians and Surgeons of the Province of Quebec, with its cumbrous and misleading name, for it does no teaching, is an incorporated body, consisting practically of all the licensed practitioners in the province in good standing. It controls the admission to study, the curriculum or course of study, and the right to practice medicine, surgery, and midwifery in every part of the province of Quebec. This it does through an executive board of governors, usually called the Provincial Medical Board, elected every three years in electoral districts, by ballot, to the number of thirty-five, and eight additional governors, elected by the four active medical schools in Montreal and Quebec, two for each school, making in all an executive board of forty-three members.

This board meets only twice a year; once in Montreal in July, and once in Quebec in September. The sessions of the board are rarely, if ever continued beyond the one day of meeting, much of the business, of course, being prepared during the intervals by committees. The English-speaking members are about one-sixth or one-seventh of the whole, and are, of course, permitted to use their own language, and for their benefit motions and explanations are always willingly translated into English when so desired; but, at least, nine-tenths of the proceedings are conducted in the French language. As regards by-laws, rules and regulations, no distinction is made between French and English, Catholics and Protestants. Broadly speaking, nearly all the French-speaking governors are Catholics, and nearly all the English-speaking governors are Protestants. There are, of course, a few exceptions. I use the word Protestant for lack of a better word.

I need scarcely say that in a mixed gathering of this kind, where so large a majority is French, the English minority is treated with the utmost courtesy and consideration, and I gladly bear testimony to that fact; but at the same time, as might naturally be expected, the opinions and the methods of the majority must prevail, except in so far as the majority may, occasionally, of its grace, grant some privilege as a special favor.

On professional matters we seldom have any favor to ask. Our own medical curriculum more than meets the requirements of the Provincial Board: and the principles of medical science, as well as the practice

based upon them, are, or ought to be, the same all over the civilized world.

With regard to the matriculation, or entrance examination, however, the case is entirely different. This examination must be passed before a student can even begin the study of medicine, and there is nothing professional about it. It is purely literary and secular, and here there has always been difficulty and a divergence of opinion. It is not that the board demands a higher or broader standard of knowledge, in its preliminary examination than we have been willing to submit to, but it is a standard different in kind rather than in degree, in manner rather than in matter, and one with which we find it difficult and sometimes impossible to comply; not from lack of capacity or willingness, but because our English Protestant system of education in this province does not furnish the kind of knowledge or training required, and has few or no residential schools or colleges.

I freely admit that the preliminary examination of to-day compares favourably with the same examination a number of years ago, and if there were any certainty of its permanence, it would probably be safer to continue to submit to it, rather than to seek a change. Under present arrangements, however, there seems to be no reasonable assurance of permanency, and the extraordinary, and, indeed, revolutionary changes which have only recently been proposed in the direction of the Cours Classique Complet, with its eight years in residential colleges, and from which we only narrowly escaped, would seem to suggest the necessity for a supreme effort to secure to the English-speaking Protestant inhabitants of the province the same independent control over this examination as our French Catholic fellow-citizens have all along enjoyed.

There is nothing unreasonable in this. It is not a question of nationality nor religion. It is simply the difference between the two systems of education, their incompatibility, even in a purely secular sense, and the impossibility of the one framing a code for the other without creating more or less dissatisfaction.

This is clearly recognized and provided for by law, in all the secular schools of this province, where the two systems of education are kept entirely separate; and controlled by two separate committees of the Council of Public Instruction, one for the Catholic and the other for the Protestant schools; each carrying out its own system and methods without interference from the other.

It seems obvious, therefore, that the only safe and fair way to deal with this purely secular matriculation examination, with perfect justice to the whole population of the province, is to place it where it ought

always to have been, under the jurisdiction of the Council of Public Instruction, with its two separate committees; and thus put an end to all suspicion of unfairness, no matter how unfounded the suspicion may be. There is no other remedy that is likely to be effectual or permanent. Moreover, it has the sanction of the law of the land, and it is entirely antecedent to any professional study whatsoever.

Even the partial remedy of a B.A. degree, provided by the so-called Lynch's Bill, but which is only within the reach of a comparatively small number of our students, is no longer secure. During the last session of the Quebec Legislature, Dr. Lacombe introduced a bill providing for its repeal, and although the bill was subsequently withdrawn, its withdrawal was accompanied by a statement, publicly made, that it would be reintroduced in the not distant future.

The only other suggested alternative, although it has never taken definite shape, is in the direction of a complete high school or academy course equivalent to the Cours Classique Complet. Even if such a course were accepted, it would still leave a large majority of our students unprovided for, unless their parents were willing, at great expense, to send their sons at a tender age to live at large in a great city, without parental care, and exposed to all its temptations and dangers.

In seeking, therefore, a safe and lasting settlement of this chronic and disturbing difficulty, by a reference to the only legitimate tribunal, we feel that we are only asking our friends of the majority to help us to secure our rights, without doing wrong to themselves; to help us to remove from our common path everything that might possibly lead, in however slight a degree, to distrust or discord, and to enable us together to pursue in harmony and mutual confidence, the work of training our young men to be high-minded and earnest members of the noblest of all professions.

ONTARIO MEDICAL ASSOCIATION.

The twenty-fourth annual meeting of the Ontario Medical Association was held in Toronto in the medical building of the University of Toronto, June 14th, 15th and 16th, under the presidency of Dr. J. F. W. Ross. The following programme was submitted:

Hydatidiform Mole and its relation to Chorion Epithelioma, with report of cases, by C. J. C. O. Hastings, Toronto.

Anomalies in Fœtal Development, by J. H. Peters, Hamilton.

Occipito—Posterior Presentations, by A. A. Macdonald, Toronto.

Peritoneal Inflammations during Pregnancy, by John Sheahan, St. Catharines.

A restatement of the attitude of the Profession towards Placenta Prævia, by K. C. McIlwraith, Toronto.

Report of a case of Bilateral Congenital Dislocation of the Hips treated by the Lorenz Bloodless Method. A brief review of the present status of the Lorenz Method, by H. P. H. Galloway, Toronto.

Thoughts on Cancer, by Sir Wm. Hingston, Montreal.

Pain in the upper Abdominal Zone—its causes and diagnosis, by Geo. Hodge, London.

The arid regions of the United States, their therapeutic indications in Pulmonary Tuberculosis, by J. Frank McConnell, Las Cruces, N.M.

Demonstration of Technique of Intestinal Anastomosis by Elastic Ligature or other devices, by N. A. Powell, Toronto.

Chest Examinations—a system of recording observations, by J. H. Elliott, Gravenhurst.

Report of a case of Resection of the Cæcum for Carcinoma, by H. A. Bruce, Toronto.

A critical review of the subject, Lithotomy versus Litholapaxy, by C. B. Shuttleworth, Toronto.

The Medical Referee's relation to the Examiner, by Dr. Jas. Thorburn, Toronto.

The treatment of Ophthalmia Neonatorum and its complications, by Perry Goldsmith, Belleville.

Influence of Heredity upon the expectancy of Life, by H. R. Frank, Brantford.

Expectancy of Life in morbid conditions of the Genito-Urinary System, by F. Le M. Grasett, Toronto.

Expectancy of Life in morbid conditions of the Cardio-Vascular System, by R. J. Dwyer, Toronto.

Expectancy of Life in morbid conditions of the Respiratory System, by Edw. Ryan, Kingston.

Expectancy of Life in morbid conditions of the Nervous System, by H. C. Scadding, Toronto.

The influence of the Plan on the acceptance of Risks for a Life Insurance Company, by Percy C. H. Papps, Toronto.

The financial responsibility of the Life Insurance Examiner, by R. L. Riordan, Toronto.

Some cases illustrating difficulties of diagnosis and treatment of Tumors, by Wm. Oldright, Toronto.

Enlargement of the Prostate gland, by F. W. Marlow, Toronto.

Surgical Relief of Enlargement of the Prostate, by Geo. A Bingham, Toronto.

The treatment of Prostatic Hypertrophy, by T. K. Holmes, Chatham.

Neurasthenia in some of its relations to Insanity, by J. Campbell Myers, Deer Park.

The relative importance of the Clinical and Bacteriological Evidences in Diphtheria, by Charles Sheard, Toronto.

The uncertainties of diagnosis and the necessity of early and vigorous treatment of Diphtheria, by T. F. McMahon, Toronto.

Diagnosis of Modified Smallpox, by Chas. A. Hodgetts, Toronto.

Strain in relation to diseases of the Heart and Aorta, by H. B. Anderson, Toronto.

Clinic on Skin Diseases, by A. McPhedran and H. B. Anderson, Toronto.

A group of cases of Malignant Disease, by R. N. Fraser, Thamesville.

The Surgical relief of Epilepsy, by A. Primrose, Toronto.

Some of the newer methods of Diagnosis in Kidney cases as applied to Renal Surgery, by W. A. Hackett, Detroit.

Anæmias, more than ordinarily severe, by Frank Trebilcock, Enniskillen.

Inflammations of the Lachrymal Apparatus, by G. Herbert Burnham, Toronto.

Diagnosis of Functional Heart Murmurs, by R. D. Rudolf, Toronto.

A Report of the work at the Muskoka Free Hospital, by C. D. Parfitt, Gravenhurst.

Lympho-Sarcoma, by B. Z. Milner, Toronto.

Report of a case of Double Otitis Media, with Mastoid Involvement —Operation and termination in fatal Purulent Leptomeningitis, by D. J. Gibb, Wishart, Toronto.

Notes of an uncommon case of Rectal Surgery, by E. Clouse, Toronto.

The officers elected for the ensuing year are: President, Dr. Wm. Burt, Paris; 1st Vice-President, Dr. J. L. Davison, Toronto; 2nd Vice-President, Dr. Geo. Hodge, London; 3rd Vice-President, Dr. Edward Ryan, Kingston; 4th Vice-President, Dr. F. H. Middleboro', Owen Sound; General Secretary, Dr. P. Lusk, Toronto; Assistant Secretary, Dr. Samuel Johnston, Toronto; Treasurer, Dr. Frederick Fenton, Toronto.

BRITISH MEDICAL ASSOCIATION

The seventy-second annual meeting of the British Medical Association will be held at Oxford on Tuesday, Wednesday, Thursday and Friday, July 26th, 27th, 28th and 29th, 1904.

President: Thomas Dryslwyn Griffiths, M.D.Lond., M.R.C.S., Swansea.

President-elect: William Collier, M.D., F.R.C.P.Lond., Physician,

Radcliffe Infirmary, Oxford, and Litchfield Lecturer in Medicine, University of Oxford.

Chairman of Council: Andrew Clark, F.R.C.S., Surgeon to the Middlesex Hospital and Lecturer on the Principles and Practice of Surgery.

Treasurer: Edward Markham Skerritt, M.D., F.R.C.P.Lond., Senior Physician to the Bristol General Hospital; Professor of Medicine, University College, Bristol.

An address in Medicine will be delivered by Sir William Selby Church, Bart., K.C.B., M.D.

An address in surgery will be delivered by Sir William Macewen, M.D., F.R.C.S., LL.D.

A popular lecture will be delivered by Dr. G. Bagot Ferguson, F.R.C.S., M.Ch.Oxon.

MANITOBA MEDICAL COLLEGE.

The faculty of the Manitoba medical college have secured a site for the new college which it is proposed to erect. The block purchased has a frontage on Bannatyne and McDermot streets, of 330 feet by 266 feet deep. It comprises ten lots on Bannatyne, and ten on McDermot, and is separated by the width of a street from the general hospital buildings. With the growth of the college during the past few years, the need of a larger building has been urgently felt, and several different locations have been proposed for it. During the winter the faculty made a proposal to the university council with regard to a site on the university campus. This proved to be not available on terms which could be accepted by the faculty. The location near the hospital is considered by many to be a very much better one. While no definite plans have yet been made, it is altogether likely that the work of erecting a college building will be begun this season, and completed in time for use during the term of 1905-6.

ROYAL VICTORIA HOSPITAL.

Report for month of May: patients admitted during month, 285; discharged, 266; died, 18; medical, 107; surgical, 116; ophthalmological, 29; gynæcological, 24; laryngological, 9. Outdoor department: medical, 672; surgical, 303; eye and ear, 295; diseases of women, 81; nose and throat, 238; total, 1,589. Ambulance calls, 65.

The governors of the Royal Victoria Hospital have made the following appointments to the resident medical staff for the year ending August 31, 1905: Admitting officer, Dr. R. King; physicians, Drs. R. Hardisty, D. McKechnie, J. C. Meakins, W. A. Lincoln; surgeons, Drs. H. Church, F. McKenty, J. Collin, J. A. Faulkner, D. C. McLachlan;

eye and ear, Dr. L. C. Lauchland; nose and throat, Dr. H. O. Howitt; gynæcologist, Dr. J. Forster; anæsthetist, Dr. F. D. Charman; locum tenens in medicine, Dr. J. E. Gillis; locum tenens in surgery, Dr. J. W. Hutchinson; externe in medicine, Dr. J. R. Rogers.

MONTREAL GENERAL HOSPITAL.

The board of management of the Montreal General Hospital has appointed Dr. R. P. Campbell as medical superintendent. The new members of the house staff who will commence their duties in September, are as follows: Drs. R. D. Forbes, anæsthetist; J. L. Robinson, J. C. Fyshe, W. G. Ricker, J. A. Nutter, L. L. Reford, H. H. Kerr, H. G. Wood, physicians; Drs. A. C. Rankin and W. E. Ainley, locum tenens.

During the month of May, 1904, there were admitted to the wards of the hospital 263 patients; there were 24 deaths; 2,688 patients were treated in the outdoor department. The ambulance responded to 132 calls.

NOTRE DAME HOSPITAL.

At the meeting of the board of governors of the Notre Dame Hospital, on June 14th, the medical staff for the ensuing year was announced: Medical superintendent, Dr. Fleury; assistants, Dr. Riopel, Dr. Rousseau, Dr. Racicot, Dr. Demers, and Dr. Parizeau. The only changes in the staff are Drs. Demers and Parizeau, who replace Drs. Leduc and David.

Dr. J. A. Leduc, who has been house surgeon at the hospital for two years has been appointed medical superintendent of the new Notre Dame Contagious Diseases Hospital.

WESTERN GENERAL HOSPITAL.

The following is the report of the Western Hospital for May. Indoor department: admitted 58, discharged 52, died 3. Outdoor department: consultations 576, divided as follows: 207 medical, 76 surgical, 97 gynæcological, 85 eye and ear, 56 nose and throat, 9 skin, 46 genito-urinary.

The erection of the new hospital in Goderich was commenced on June 9th.

There were forty graduates in medicine at Laval University at the end of the session which has just closed.

Dr. V. H. Moore, of Brockville, died on the 8th of June in

the 56th year of his age. In 1889, Dr. Moore became vice-president of the College of Physicians and Surgeons of Ontario, and president in 1890. He was made a fellow of the Royal College of Physicians and Surgeons of Kingston in 1890. He had also been vice-president of the Ontario Medical Association and of the Association of Military Drill Officers of Canada. He was made an LL.D. by Queen's in 1903, and was a member of the council of that university.

Dr. Gaspard Archambault, of Montreal, died on the 14th of June, 1904, after a long illness. He was a graduate of Victoria University, in 1873, and ten years later was appointed professor of anatomy and dermatology in Laval.

Dr. C. L. Cotton, of Cowansville, died at the Montreal General Hospital on June 15th as a result of blood poisoning received during the performance of an operation. Dr. Cotton was 47 years of age and a graduate of McGill in 1877.

Dr. Charles Walton Chafee died in Toronto on the 25th of May. The cause of death was pneumonia.

Dr. Frederick S. Wade, of Port Maitland, Nova Scotia, died on the 27th of May, in the 42nd year of his age.

Dr. Reginald Henwood, of Brantford, one of the oldest practitioners in Brantford died on the 22nd of May in the 76th year of his age.

Dr. C. P. Cameron, of Westville, Nova Scotia, died on the 26th of May, of pleurisy. He was a graduate of Dalhousie and 25 years old.

Dr. John A. Marshall, of Belleville, died on the 31st of May.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

WILLIAM TAYLOR, B.A., M.B., Dubl. F.R.C.S.I. "Some cases of Intestinal Obstruction successfully treated." *Dublin Journal of Medical Science*, May 2, 1904.

This interesting contribution embraces thirteen cases, five of which were caused by malignant disease, of which three were situated in the rectum, one was in the cæcum, and one in the hepatic flexure. Three cases were due to intussusception. Two were caused by bands, evidently the result of a former peritonitis. One was due to a pushing of the gut through a hole in the omentum; another to a band stretch-

ing from the omentum and adhesions between the intestinal coils lying in the pelvis; and one of adynamic obstruction, resulting from a spreading infection from an abscess in the abdominal wall. The clinical pictures were all suggestive of intestinal obstruction, the nature of the obstruction being also fairly apparent. With reference to the cases due to rectal cancer, the writer very correctly states that sufficient attention is not paid by the general practitioner to the attacks of diarrhœa which are present in the great majority of cases, and he advises digital examination of the rectum as an imperative duty on the part of the doctor in charge. Intussusception is thought to be the most common cause of acute obstruction, the mortality higher than usually given since many cases are not diagnosed, while quite a number operated upon are not reported. Strangulation due to bands is, perhaps, the most satisfactory, as the symptoms are usually acute and operative interference early sought for. In these cases there is generally a considerable disturbance of the circulation and nerve supply of the parts, and the severity of the symptoms is almost always directly proportionate to the suddenness and extent to which the normal circulation is impeded and the innervation interrupted. On the other hand, acute obstruction due to adhesions, if at all extensive, is the most unsatisfactory form to treat, as separation is tedious and difficult, the patient frequently sinking under the prolonged operation, while in those cases when recovery takes place the reformation of adhesions is not at all unlikely. In cases due to stricture, whether simple or malignant, if urgent the best method is temporary drainage with subsequent removal of diseased part and an anastomosis. If not urgent, resection and an end-to-end anastomosis gives good results. When excision is impossible a short circuiting operation is advised and preference given to the implanting of the cut end of the upper part of the bowel into the lower, thus preventing fæcal matter from passing into the obstructed loop. A very important suggestion regarding the treatment of the distended gut after the cause of obstruction has been relieved is to wash out the intestinal contents. This is done by making a small wound in the jejunum through which an irrigating nozzle is introduced and a similar opening in the ileum just above the obstruction and irrigating throughout the entire course. In those cases when the obstruction has been relieved and death takes place it is due to absorption of the poisonous contents of the intestine, and if this material be washed out many lives should be saved. This method requires less time than multiple punctures, and is evidently greatly superior to a single puncture. Gastric lavage both before and after operation is recommended.

Robert B. Greenough, M.D. "Enterostomy in Peritonitis." *Boston Medical and Surgical Journal*, May 19, 1904.

This excellent article is based upon a study of forty-one cases of diffuse peritonitis from the Massachusetts General Hospital. The subject is introduced by giving a short history of the surgical procedures in cases of intestinal obstruction, credit being accorded to Paul, of Liverpool, who, in 1892, published a paper in which he reported the use of his tube in cases of acute mechanical obstruction and peritonitis and in resection of the colon. To Mixter belongs the credit of employing a similar tube in the treatment of paralytic obstruction. To sum up the points covered in the paper it may be said that the obstruction of the intestines in diffuse peritonitis is the result of a combination of causes: the most important being suspension or paralysis of peristalsis due to inhibition, to toxic paralysis, and to the paralysis of distension. Mechanical causes such as infiltration of the bowel wall and light adhesions contribute in certain cases to this paralysis. Pure mechanical obstruction due to adhesions is the result of chronic or local peritonitis of at least some days' duration.

Enterostomy is indicated in addition to other operative measures in the graver forms of diffuse peritonitis, the greatest advantage being the drainage of the gases and decomposing contents of the bowel and the relief of paralysis of peristalsis, while at the same time it allows the surgeon to obtain direct control over the intestines for lavage and for the introduction of stimulants, nourishment, fluids and cathartics. Relief of paralysis of peristalsis is best secured by a primary enterostomy rather than by a secondary operation. Enterostomy is best performed by the use of the Mixter tube, the cæcum being the most satisfactory part of the bowel for a primary operation while the jejunum is to be avoided. Spontaneous closure of the fistula may be expected when the cæcum is opened, if the opening is kept below the level of the parietal peritoneum. By the systematic use of enterostomy in the graver forms of diffuse peritonitis the number of patients dying on the second, third and fourth days after operation is reduced. The symptoms of visible peristalsis and spasmodic pain in intestinal obstruction indicate a mechanical cause for the obstruction, and persistence of these symptoms, unrelieved by enemata and cathartics, is an indication for operation, the cause of the obstruction being removed if possible. In advanced cases of obstruction of this form, enterostomy of the coil of intestine nearest above the obstruction should be done. An abstract of the cases is given.

W. Scott Schley, M.D. "The use of Rubber Tissue and Boracic Acid in the Treatment of Surface Granulating Wounds and Especially of the Varicose Ulcers of the Leg." *Medical Record*, June 4, 1904.

This form of treatment has given very good results in the hands of the writer. The combination of boracic acid and rubber tissue is recommended for the rapid epidermization of the broader, exuberantly or freely granulating surfaces. The dressing is not a dry one since the rubber tissue prevents evaporation. The total wound discharge is less than when gauze dressings are used. The antiseptic, astringent and sweetening action of boric acid permits of the advantage of infrequent dressings, once every five or seven days being sufficient. It gives the best results when applied to the softer granulating surfaces, but gives good results also where the granulations are firm. It has not been employed in ulcers with gangrenous or sloughy bases, but has worked well in large indolent ulcers, without, or with scanty granulating surfaces.

George M. Edebohls, M.D. "Renal Redecapsulation." *Medical Record*, May 21, 1904.

This is the first case reported of its kind, and was performed on a patient with chronic Bright's who had had the kidneys decapsulated two years previously. For about six months after the first operation he was doing well, when symptoms of pyelonephritis developed, which condition improved somewhat under treatment, but never entirely cleared up, as he gave a history of several exacerbations. Cystoscopic examination showed inflammation of the prostatic urethra and of the trigonum vesicae, hyperæmia of the mouths of the ureters, and a nearly healed prostatic abscess which was still discharging small quantities of pus into the urethra. Under treatment the bladder and urethral conditions improved, but the renal infection persisted. The case declined operation and went from bad to worse, an increasing anæmia and deepening uræmia comming on. The second operation was performed when the patient was practically moribund. The kidneys were found to be anchored to the abdominal wall in the lumbar region, completely covered by the fatty capsule, and the new capsule proper was thinner and perhaps more transparent than the original capsule and peeled off with no greater difficulty. There was not the slightest evidence of compression of the kidney by the new capsule. The perirenal fat was well vascularized. The kidneys were found to be the same size and pre-

sented the same gross appearance of chronic interstitial nephirtis as at the first operation, but were decidedly less hard and more succulent to palpation. The uræmia remained uninfluenced, the case dying in coma five hours later, but a matter of considerable practical interest is the fact that the flow of urine was started by the operation though too late to save his life. The three chief points of interest are the nullification of the usual good effects of renal decapsulation by persistent chronic infection of the genito-urinary tract, the mediate and practically normal fixation of both kidneys as a result of simply dropping the organs back into their fatty beds after decapsulation, and the prompt effect of decapsulation in relieving complete anuria. Redecapsulation is indicated in chronic Bright's where after a more or less protracted period of improvement following a first decapsulation the clinical symptoms return or become aggravated, that is in those cases of uræmia and of failure of kidney function characterized by a steady diminution in the amount of the daily output of urea.

B. G. A. Moynihan, M.S. Lond., F. R. C. S. Eng. "On the Removal of the Gall-Bladder in Operations for Gall-Stones." *Lancet*, April 30, 1904.

In a concise article the writer puts himself on record as in favour of cholecystectomy in all or almost all cases of gall-stone disease requiring surgical treatment. The removal of the gall-bladder does not involve a greater risk than cholecystotomy. The advantages of cholecystectomy are that the operation removes the chief source of the disease: that it thereby prevents, in a great measure, a recurrence either of stones or of the inflammation which betokens their presence: that growths in the gall-bladder or adhesions around it are subsequently impossible, and that the wound, if drainage is not required, will heal throughout by first intention. The gall-bladder is devoid of any strikingly useful purpose, and its removal does not interfere with digestion, so that if not useless it can quite well be spared. The presence of stone in the common duct does not prohibit the operation, but drainage of the duct after removal of the stone from it or the ampulla is necessary. The one disadvantage which may be urged against cholecystectomy is that if a later operation should become necessary—for stones can and do form in the hepatic and common ducts the operation would be more difficult and almost certainly more dangerous. The possibility of a further operation being necessary cannot be denied, but the likelihood of it is negligible.

W. L. B.

EUGENE L. OPIE, M.D. "Lesions peculiar to the Pancreas and their Clinical Aspect." *Med. News*, May 21, 1904.

Although the pancreas is an important organ, subserving several distinct functions, yet the clinical evidence of even extensive disease is frequently extremely obscure.

This obscurity is due to a variety of causes. The organ is deeply seated in the abdomen, and is rarely palpable in health or disease. The secretion of the pancreas is of great importance in digestion, yet it is only when it is almost or completely prevented from reaching the intestine that it gives rise to symptoms. There is no obvious symptom like that of jaundice seen in obstruction of the hepatic ducts.

The knowledge that pancreatic disease is frequently associated with more obvious clinical conditions such as disease of the liver, or its ducts, or of the duodenum, will often prove of value as evidence of disease of this organ.

In obstruction of the pancreatic duct there is a characteristic lesion resulting from the presence of the glandular secretion in the tissues. This is the so called fat necrosis in the adipose tissue of the abdominal cavity, consisting in small opaque white foci, which give an important clue to the surgeon on opening the abdomen of the presence of pancreatic disease. Acute hæmorrhagic pancreatitis is most frequently associated with fat necrosis, but it may also occur in suppurative pancreatitis, in chronic intestinal pancreatitis or in obstruction of the pancreatic duct by biliary or pancreatic calculi.

That the penetration of pancreatic secretion to the tissues is responsible for fat necrosis is shown by experimental evidence. Langerhaus showed that fat necrosis is due to splitting of fat into glycerin, which is carried away, and insoluble fatty acids which remain within the fat cells. This splitting is doubtless accomplished by the fat splitting ferment of pancreatic juice, and Flexner was able to demonstrate a fat splitting ferment in the foci of fat necrosis. Ligation of the pancreatic ducts of the cat also induces fat necrosis, and this results much more rapidly when the pancreatic secretion is stimulated by pilocarpine.

Acute hæmorrhagic pancreatitis is uncommon, but of such severity that death may result within forty-eight hours of its origin. In typical cases the individual, who has previously been in good health, or suffered from attacks of abdominal pain, is suddenly seized with violent epigastric pain, accompanied by uncontrollable vomiting, and soon followed by collapse. The localisation of the pain and the severity of the onset

are the most characteristic features, and in some cases make a diagnosis possible. Not infrequently the symptoms are less severe, the patient survives several weeks and an ill-defined tumor appears over the region of the pancreas. Fever and leucocytosis form further evidence of suppuration.

A considerable proportion of cases of acute pancreatitis are associated with gall-stones. Opie gives reasons for believing that pancreatitis is most likely to arise when a stone blocks the outlets of the common orifice of the ductus choledochus, and canal of Wirsung, so allowing of the entry of bile to the pancreas. As experimental results show that the injection of bile, and indeed of various irritating substances to the pancreatic duct, is capable of setting up pancreatitis, this view is an attractive one, and it also serves to explain the immunity of the pancreas in most cases of bile stones.

Chronic pancreatitis results from obstruction or ascending infection of the duct of the gland. When occlusion of the ducts occurs there is an overgrowth of connective tissue, destroying the acini, but usually sparing the peculiar islands of Langerhaus.

Occlusion of the duct usually results from calculi formed within the pancreas, from biliary calculi or from cancer. It is in these cases that the digestive disturbances attributed to pancreatic disease have usually been observed. Fitz collected 29 cases in which fatty stools were observed during life. In fourteen cases cancer was present, in seven calculi, and in two the duct was obstructed. The small number of these cases indicate how little reliance can be placed on fatty stools as evidence of pancreatic disease.

Both Riedel and Mayo Robson have pointed out the surgical importance of recognising chronic interstitial pancreatitis in connection with gall-stones. Both have pointed out that in a certain number of cases the head of the pancreas is enlarged and indurated and highly suggestive of carcinoma. In several instances a serious prognosis has been disproved by the subsequent course of the malady. Mayo Robson has described several cases of cholelithiasis with chronic pancreatitis and attaches considerable clinical importance to the latter condition, believing that it causes severe pain in the epigastrium and mid-scapular region, vomiting and loss of weight and strength. Cholecystotomy with drainage of the gall-bladder, and when necessary removal of the gall-bladder has been followed by recovery.

The remainder of the paper is devoted to the glycolytic function of the pancreas, and the peculiar relationship of the islands of Langerhaus to diabetes.

Opie regards arterial sclerosis and diabetes as having more than an

accidental association, and believes that an advanced degree of arterial sclerosis of the pancreatic vessels is responsible for a certain number of cases of diabetes.

Raw. "Primary Intestinal Tuberculosis in Children." *Brit. Med. Jour.*, May 28, 1904.

Symes and Fisher. "An Inquiry into the Primary Seat of Infection in 500 Cases of Death from Tuberculosis." *Brit. Med. Jour.*, April 16, 1904.

Hunter. "The Occurrence of Primary Tuberculous Infection of the Intestinal Tract in Children." *Brit Med. Jour.*, May 14, 1904.

Raw, in reporting these cases of primary intestinal tuberculosis in children, states that it is an extremely rare condition, and in 600 autopsies on persons dead of tuberculosis he has only found three undoubtedly due to primary intestinal infection.

The German commission appointed after Koch's famous London address, in 1901, was unanimous in favour of Koch's contention that the bacilli of human and of bovine tuberculosis have distinct morphological and bacteriological characters; which sufficed for their easy differentiation. In addition, the commission has clearly proved that bovine tuberculosis is conveyed to children, and emphasizes the fact that tuberculosis is often primary through the intestines and mesenteric glands. From three cases of miliary tuberculosis in children the disease was introduced through the intestines, and in one case the infection was bovine through milk. The German commission thus recognizes that bovine tuberculosis may be conveyed to children through milk, although this mode of infection they regard as uncommon.

Raw believes, however, that bovine tuberculosis through milk infection is comparatively frequent. Although the intestine is rarely attacked, yet the bacilli pass through the mucosa and infect the mesenteric glands. From this point the abdomen is infected by direct extension, as are also the bronchial glands, the pleuræ and the lungs. In 48 autopsies the majority showed primary infection of the digestive tract (mesenteric glands) and secondary involvement of the lymphatics of the throat and sometimes the meninges. His cases of acute miliary tuberculosis all appeared to be of intestinal origin and bovine in type.

Raw concludes that bovine tuberculosis is a great danger to children, and that milk for children under 10 should be sterilized.

Symes and Fisher analyze 500 cases as to the primary seat of infection. They found, in children under twelve, 12 abdominal and 57 thoracic cases, a proportion of 1 to 4.7. Under two, however, the abdominal

case come more frequently, 5 being abdominal and 9 thoracic. This, however, does not prove, although it suggests a milk infection.

Hunter has utilized the extraordinary wealth of pathological material at Hong Kong in estimating the occurrence of primary tuberculous infection of the intestine.

During 1902-1903, 5,142 necropsies were held at the public mortuary, about 35 per cent. being in children under 5. Only 13 cases of intestinal tuberculosis were found, and in 8 the condition was regarded as secondary. Of the five primary cases all occurred in children under 5. The mesenteric glands were infected in only 5 cases in over 5,000 autopsies. Hunter concludes that primary tuberculosis of the intestine and of the mesenteric glands is rare.

Hunter's results there correspond closely with those of Koch and of Baginsky, of Berlin, so far as primary tuberculosis is concerned. The extreme rarity of intestinal tuberculosis of secondary origin is remarkable, and forms a marked discrepancy with the frequency of intestinal tuberculosis in other countries.

Henry Hun, M.D. "Myasthenia Gravis." *Albany Medical Annals*, January, 1904.

Hun's paper is an important contribution to the pathology of this malady.

The clinical features of the disease are now fairly established, and have been dealt with exhaustively by a number of writers, notably by Oppenheim (die Myasthenische Paralyse, Berlin, 1901).

In 1901, Weigert reported in a typical case of myasthenia gravis a sarcoma of the thymus and an infiltration of the muscles by foci of lymphoid tissue.

Hun's case was a locomotive engineer, aged 32, who gradually developed ptosis, and a muscular weakness extending down to the neck, arms and hands, and six months later to the lower extremities. The weakness at first limited to the left side, extended in the course of nine months to almost all the muscles on both sides of the body. The involvement of the face muscles gave a peculiar character to the smile and laugh, and made whistling impossible. The muscular weakness did not amount to complete paralysis: it varied greatly in intensity, was worse toward the end of the day and in especial, was associated with a rapid tiring of the muscles. Electrical examination of the muscles gave the myasthenic action, and the muscles were very inexcitable to both currents. The case terminated fatally from suffocation in less than two years from the onset.

The *post mortem* changes revealed no special changes, with the exception of an infiltration of the muscles and of the thymus gland with lymphoid tissue, and a proliferation of the glandular elements of the thymus, the changes suggesting lympho-sarcoma.

In cases already reported no evidence of disease of the central nervous system has been found. Several cases, however, have been recorded in which conditions similar to, or analogous to that described by Weigert, have been present.

The chronicity of the disease is rather against the theory that it is caused by a lympho-sarcoma of the thymus, although this objection only holds for a small number of cases, most terminate within two years.

The thymus is not always the seat of sarcoma. The infiltration of the muscles, however, goes far in explaining the peculiar clinical features of the disease.

LARYNGOLOGY.

Under the charge of H. S. Birkett.

Henry Koplik, M.D. "Tuberculosis of the Tonsils, and the Tonsils as a Portal of Tubercular Infection." *American Journal of the Medical Sciences*, November, 1903.

As regards primary tuberculosis of the tonsil, the writer emphasizes its rarity, and refers to Friedmann's case as being the only one of the kind in the later literature. In this case the patient was one year and four months of age; the tonsil alone was affected, the child dying of other causes.

He mentions the fact that other authors, as Orth, Ruge, Schlessinger Scheibner and Kruckmann speak of primary tuberculosis of the tonsil with accompanying tuberculosis of the cervical lymphnodes, and also that cases have been published by Schlenker, Brugmann, Freidmann and Orth in which the tonsillar affection was the starting point of an acute miliary or chronic pulmonary tuberculosis. He also refers to the fact that the secondary forms of tuberculosis of the tonsil are very common and mentions the names of Strassmann, Ruge, Dmochowsky and Schlenker in this connection. The writer then makes the rather startling statement that "the victims of chronic pulmonary tuberculosis sooner or later develop tonsillar infection," a view certainly not generally accepted, and in any case difficult of proof.

The writer then proceeds to mention the fact that the cervical lymphnodes are quite constantly affected, and that children furnish by far the greatest quota of cases. He then describes the appearance of the affected tonsils, which seemingly have nothing characteristic, the pre-

sence under the microscope of the tubercle bacillus and tuberculous tissue being the diagnostic evidences. Ulcers on the tonsils have rarely been observed.

He summarizes the cases of primary tuberculosis in the later literature, confirmed by autopsy and reported by Friedmann, Kruckmann, Schlenker, Ruge and Scheibner.

Pluder and Fischer examined the tonsils of 32 patients which had been removed for hypertrophy, and found tuberculous infection in five.

Lartigan and Nicoll found 10 per cent. of 85 adenoids were tuberculous, no evidence of tuberculosis clinically in other organs.

These authors give a *résumé* of 161 cases of Lermoyez, Gottstein and Brindel examined in the same way, 19 of these cases were found to be tuberculous and to contain tuberculous tissue.

The writer then reports a case of apparently primary disease of the tonsil of special interest from the fact that the development of the affection had dated distinctly in his opinion from an exposure to infection.

"Both tonsils were involved. One tonsil showed a distinct tuberculous ulceration which is rare, resembling in some respects a chronic diphtheria. Scrapings from the tonsillar ulcer revealed large numbers of tubercle bacilli. The granulations scraped from the tonsils showed tubercle with giant cell formation. Examination of the extirpated left tonsil showed the same tissue and bacilli. The lymph-nodes on both sides of the neck, from the angle of the jaw down, were much enlarged, and when extirpated and examined showed the presence of cheesy areas, tubercle tissue and numbers of tubercle bacilli. The nodes showing the oldest infection were high up behind the tonsil."

Then follows a complete history of the case.

He then quotes another case in which enlargement of the cervical glands followed "an affection of the tonsil," the glands on this side being subsequently removed, gave evidence of tuberculosis, though the tonsil was of an apparently normal appearance at the time of operation. The tonsil was not examined, and it presumably was not removed. Child well six months after operation.

Eugene S. Yonge, M.D., Edin. "The Prevention of the Recurrence of Nasal Polypi." *Lancet*, November 7, 1903.

The writer, while admitting that the pathology of nasal polypi is still somewhat involved in mystery, is convinced after a study of this subject that in the evolution of successful methods of treatment, the labours of the clinical observer have been distinctly more fruitful,

especially as regards those whose object is to obviate the tendency to recurrence.

After enumerating the different sites where polypi are commonly attached, he refers to the recognized frequent association of polypi and disease of the accessory sinuses, notably the ethmoidal cells, and mentions three cases in his own experience where disease of the accessory sinuses and polypi co-existed, all of which yielded to suitable treatment. He quotes Lambert Lack as of the opinion that these formations usually owe their origin and tendency to recurrence, to disease of the underlying bone, the morbid condition being an osteitis and periostitis, an opinion practically confirmed by Thurston, Martin, Cordes and others; although the last named did not always find in mild cases of polypi, evidences of bone disease on microscopic examination. According to the writer, clinical testimony in support of Lack's statement appears to be provided by the fact that the inclusion of a portion of the underlying bone, when removing a polypus with the snare, is found to be of distinct value in preventing recurrence. Where the polypi are numerous and a radical cure is wished for, simply snaring is not sufficient, and it is in the writer's opinion necessary when all the visible polypi have been removed, to expose the parts from which they grew and to cut away the diseased tissues.

He recommends a preliminary removal of a considerable portion of the middle turbinal by Luc's flat nasal forceps, and after drying and examining, the polypoid remnants and diseased tissues may be removed by the same forceps or by a ring knife.

Luc advises in addition, the opening of the posterior ethmoidal cells at the same sitting.

The results of this procedure with regard to the prevention of recurrence have, in the writer's experience, been very favourable, cases having been quickly cured, and when recurrence does take place it is not of a severe nature and is usually more easily treated than is the primary condition, on account of the modification in the anatomy of the parts.

General anæsthesia may, if necessary, be employed.

He concludes by describing briefly the operative procedure recommended by Lambert Lack for the treatment of severe cases of polypi, this may be referred to in the "Manual of Surgical Treatment," Cheyne & Burghardt, Part V., London, 1902. The writer draws attention to the fact that the field of operation is undoubtedly a dangerous one, especially on account of the vicinity of the cribriform plate.

J. Roubleff. "Treatment of Ulcerous Lesions of the Pharynx and Larynx, of Tuberculous and Syphilitic Nature." *Ibid.*

Sokoloff (Medic Obosr. N. 10, 1903) is here quoted as having em-

ployed solutions of pheno-salyl in strengths varying from three to 10 per cent. in 25 cases, 16 of which were laryngo-pharyngitis and six syphilitic ulcerations. The results obtained in nearly all the cases have been satisfactory.

After three or four irrigations the pain on deglutition diminished.

After five or six irrigations wtih a five per cent solution of pheno-salyl, limited tuberculous infiltrations disappeared and the voice became more clear.

In the syphilitic ulcerations where the lavage (without general specific treatment) was performed every second day with a solution varying in strength from five to ten per cent., cicatrization commenced as a rule at the end of two or three weeks.

Roubleff. "Local application of Pheno-salyl in Tuberculous Laryngitis." *Revue de Thérapeutique Médico-Chirurgicale*, September 15th, 1903.

The writer refers to the employment by Dempel (Thérapeutique Moderns Russe, No. 3, 1903) in 54 cases of tuberculous laryngitis of repeated syringing of the larynx with pheno-salyl, a method of treatment recommended two or three years previously by Von Stein.

Dempel declares, according to his observations, in favour of an aqueous rather than the glycerine solution recommended by Von Stein, on account of its freedom from the burning sensation following the use of the latter.

He practices these washings three or four times weekly, according to the intensity of the affection, and finds that the superficial ulcerations disappear after several syringings, while the deeper ulcerations require a somewhat prolonged treatment, four or five weeks.

In concluding, the writer remarks that in strong solutions pheno-salyl is almost painless, there is no disagreeable odour and a preliminary cocainization is not necessary, facts which, in his opinion, permit of pheno-salyl taking one of the foremost places in the conservative treatment of tuberculous laryngitis.

E. Vogt. *Ibid.*

The writer quotes Fink (Die Heilkunde, July, 1903) as having made use of the drying and slightly stimulating properties of aristol in the treatment of ozæna. According to Fink it is necessary first to cleanse thoroughly the nasal cavity, and for this purpose he recommends a solution of 300 grammes of water containing half a drachm of spirits of soap.

These irrigations are carried out too or three times daily, and each

is followed by the insufflation of aristol, a treatment which results in a gradual diminution of the secretion; there are fewer crusts formed, and it is necessary to proceed less frequently to lavage.

It is in rhinitis vasomotaria that according to Fink is symptomatic of maxillary sinusitis that aristol gives the best results by entering the diseased sinuses.

He mentions 55 cases of cure, but emphasizes the technical difficulties of introducing a canula through the opening into the antrum and insufflating through this canula.

Lawrie H. McGavin, F.R.C.S., Eng. "A note on Tonsillar Enlargements and their Treatment." *Lancet*, September 26th, 1903.

The writer begins by advocating more conservatism in the treatment of enlarged tonsils until the functions of these organs are better understood.

As to the uses of the tonsils; he considers them first and chiefly as the scavengers of the oro-pharynx and brings forward in support of this view several points of argument more or less theoretical.

The observations of Störck, Park and others are quoted as evidence that phagocytosis is one, if not the chief object of these glands; and the experiments of Goodall and Hendelsohn have proved their absorptive power.

That the tonsils undergo atrophy in later life the writer considers no argument against their supposed protective function, as the marked predisposition to the exanthemata disappears in later life and their presence being no longer required, he regards it in the natural course of events that they should to some extent disappear. He classifies enlargement of the tonsils as follows:

1. Simple enlargement or hypertrophy of the tonsils. Treatment, partial or complete removal.

2. Enlargement due to continued irritation subdivided into two classes—(*a*) Those in the early stage of inflammation; (*b*) Result of chronic inflammation or hyperplasia. The most common cause being nasal insufficiency.

Treatment—(*a*) Remove cause; (*b*) Remove tonsils.

3. Enlargement accompanied by lacunar inflammation.

The treatment here is conservative and radical.

The first consisting in the use of the thermo cautery and dilatation of the orifices of the crypts, the writer describes a crypt dilator and curette of his own design.

Then follows a list of cases where the use of each is indicated.

W. H. J.

OTOLOGY.

UNDER THE CHARGE OF FRANK BULLER.

PHILIP D. KERRISON: "The Limits of Variation in the Depth of the Mastoid Antrum." *Archives of Otology*, Vol. 32, p. 171, June, 1903.

To bring order out of the confusing diversity of opinion regarding the depth beyond which it is not safe to proceed in an attempt to open the mastoid antrum, and to ascertain if any definite relationship existed between the length of the posterior superior wall of the auditory canal, and the depth of the antrum, Kerrison made careful measurements of 30 temporal bones taken at random as they could be obtained. The conclusions arrived at were as follows:

1. That the depth of the antrum is always less than the length of the posterior superior wall of the auditory canal; that in the great majority of bones it is not over 12 mm., is often very much less, and is never greater than 15 mm., or ⅝ths of an inch; and therefore—

2. That in a surgical attempt to expose the antrum a depth of ⅝ths of an inch (15 mm.) should be regarded as the extreme limit of safety.

In the discussion following the reading of this paper, Dr. Duel (p. 215) thought that while an anatomical work of this kind was very important for the purpose of clarifying the literature of evident mistakes, the facts nevertheless would not prevent the inexperienced or careless operator from going wrong. In other words, that with a fixed depth in his mind an operator might in some instances stop short of the antrum, and in others go too far if he were proceeding in the wrong direction. The important thing was that the operator should have an abiding faith in the presence of the antrum always in the same place, namely, beneath the angle made by lines drawn tangent to the superior and posterior portion in the circumference of the bony canal wall, and that he should go ahead in this direction irrespective of how deep, until that cavity was encountered; that in this position he would seldom expose the sigmoid sinus in going into the antrum, and that in the rare instance in which this might occur it would be necessary to approach the antrum by removal of the posterior superior portion of the bony canal wall after separating the cartilaginous canal.

PROFESSOR BEZOLD, Munich: "The Treatment of Acute Otitis Media." *Archives of Otology*, Vol. 32, p. 9.

The objects to be attained in the treatment of simple acute and perforative otitis media are stated by Prof. Bezold as follows:—

1. The morbid products must be completely removed or their rapid absorption assured.

2. The reinfection of the diseased cavities is to be prevented.

3. Permanent and favorable conditions for drainage.

The first indication is met by use of the air douche and paracentesis. Since otological thought has come more and more under the influence of bacteriological theories there have been many warnings against the use of the air douche as long as the ear disease is in an acute stage, though later its use may be permitted. Professor Bezold has become convinced of the favourable action of air inflation in acute aural inflammations in a sufficiently large number of patients so as not to be frightened on any theoretical grounds. He does not consider the bacteriological theories to be wrong, but the distrust of the protection which the tubal canal furnishes against the entrance of corpuscular elements in the air current unreasonable. As long as the drum membrane is not perforated he has never hesitated to use the air douche and has never seen any harm come from it.

The practice of paracentesis has recently been restricted by certain colleagues. This to the author is absolutely incomprehensible and he is positive that the opening of the drum membrane at the proper time, not only brings subjective relief but shortens the subsequent course. The opening made by paracentesis does not of itself fulfil all the indications, but the secretion must be forced out. For this he prefers the external air douche from the auditory canal, which is also performed during the act of swallowing.

After paracentesis the air douche is practised from the auditory canal, then a small quantity of boracic power is insufflated by means of a glass rod or pipette. Later, the following method of treatment is adopted: The patient is made to frequently repeat Valsalva's experiment, and the secretion which appears at the orifice of the perforation is carefully removed by repeated moppings with cotton-wool pledgets until everything is perfectly clean. Then boracic acid powder is insufflated.

The advantages claimed for this method are (1) The discharge never becomes fœtid; (2) The auditory canal remains free from inflammation and swelling during the entire course of treatment.

In the case of perforation the ulceration and thick epidermis disappear quickly and the excoriations heal in a few days. Thenceforth the canal remains free from irritation. This permits us at any time to thoroughly survey the drum membrane and to recognise the ominous swelling of the posterior and upper bony auditory canal at its beginning significant of mastoid involvement.

During the treatment repeated small operations on the drum membrane may be necessary; the opening, if situated in the upper posterior

quadrant, must be enlarged downwards. If at any time the perforation is impassible for the air douche, and the drum is again bulging, paracentesis must be repeated at the old site. The return to the normal hearing distance (whisper at four to five meters) gives us the surest indication that the opening may be allowed to close. After closure the douche is to be applied by means of a catheter in adults and Politzer's method in children until no noises are perceived by the patient on blowing his nose, when the hearing has become normal.

In the last five years between three-fourths and four-fifths of Professor Bezold's cases have healed under this line of treatment; in the remainder, namely one-fifth to one-fourth of the acute purulent otitides, the antrum and mastoid cells had to be opened. In explanation of this large percentage it may be stated that the author holds very broad views in regard to the operative treatment of the mastoid complications. As for instance, if an acute middle ear suppuration lasts more than two months notwithstanding careful treatment, he considers a complication is surely present which will prevent its healing spontaneously.

Finally Professor Bezold protests against two methods of treatment which are recommended in many text-books and are being employed at the present day to a limited extent. These are: Irrigation of the middle ear by means of a catheter through the Eustachian tube, and the drainage of the ear canal by the so-called "dry" method. The first method he considers should be abandoned in the light of our present knowledge and experience, and from what he has seen of the second method he considers its action to have been very unfortunate.

W. Gordon M. Byers.

Society Proceedings.

LA SOCIETE MEDICALE DE MONTREAL.

Final Meeting, June 7th, 1904.

Dr. Valin, President, in the Chair.

Dr. DeMartigny introduced to the meeting Dr. Carrel of the Faculty of Medicine, Lyon, and he was elected an honorary member.

Dr. Valin showed a patient 66 years old, who was suffering from syphilitic gummata of the right testis and both elbows and knees. Great improvement had followed specific treatment of 15 days duration.

Dr. Dubé suggested that the peculiar location of the gummata was explained by the fact that the patient was a carpenter, and so obliged to exercise pressure upon the knees and elbows.

Dr. W. J. Derome showed a specimen of fibromatous uterus which had been removed by him from an unmarried woman, 43 years of age. He gave a full report of the case. Five years ago there was flooding, very profuse, and curetting was done without a satisfactory result. Dr. Derome described the state of affairs which he found last February and again in May. The total ablation of the uterus was decided upon by abdominal incision, and the operation was carried through without difficulty. An examination of the specimen showed that the cervix was distended by a pedunculated submucous myoma; both ovaries had undergone cystic degeneration and were removed. The patient made an uninterrupted recovery.

Dr. Carrel discussed the advantages of the vaginal method as compared with removal by the abdominal. Dr. Derome, in reply, said that the long narrow vagina would have rendered such an operation almost impracticable, and would have compelled him to leave behind appendages that should have been removed. The advantages of either route might be relative, but as a matter of fact the vaginal route which had been so much in vogue was now almost abandoned.

Dr. Dubé read a case report of Pericarditis and showed explanatory diagrams.

Dr. Valin presented a paper in which he insisted upon the importance of immobilising the limb in a horizontal or elevated position in the case of tibial ulcers. In the discussion of the case Dr. Carrel confirmed Dr. Valin's views.

With this meeting, the proceedings for the year were closed. The meetings will be resumed on the 11th of October next.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Seventeenth Meeting, June 3rd, 1904.

Dr. J. A. MacDonald, Vice-President, in the Chair.

Dr. Oskar Klotz read a paper on Cancer of the Bile Papilla. It appears at page 477 in the present number of this Journal.

Dr. Adami: I must congratulate Dr. Klotz in having added to the literature of this interesting subject and in demonstrating so clearly that here we have a fifth possible origin for cancer of the root of the Bile Papilla. I am fairly familiar with the literature on this subject, and so far as I know, no one has called attention to this fact that one may have cancer from Brunner's glands. Another point is that we are clearly able to separate off the pancreatic duct as being the cause of cancer in this region showing clearly that if not from the bile duct it is from the ampulla. Here we have the extraordinary small size of the

blocking. Really the whole growth was not as large as the end of one's little finger and yet it proved fatal. I must congratulate Dr. Klotz on his careful study of this case.

Dr. Jack: I would like to ask about the sex, and if Dr. Klotz thinks excessive alcoholism at all invites this disease.

Dr. Klotz: Further than upon the irritation theory of cancer, alcohol would seem to play little part in cancer of the bile papilla or of the ampulla. Taking cancer of the intestine as a whole it decreases from the rectum upwards, the greatest number of cancers in the intestine are located in the rectum, sigmoid flexure and so on to the duodenum, and at the duodenum, they again increase towards the stomach, so that it would seem that alcohol would play but little part in cancers of the intestine as there is the greater number of cases at both ends of the alimentary tract.

Dr. Malcolm MacKay read a paper on Hereditary Chorea in eighteen members of a family with a report of three cases.

Eighteenth Meeting, 17th June, 1904.

H. S. Birkett, M.D., President, in the Chair.

The following officers were elected for the ensuing year:

President—Dr. J. A. Macdonald.

Vice-President—Dr. F. R. England.

Secretary—Dr. A. H. Gordon.

Treasurer—Dr. A. T. Bazin, re-elected.

Trustee—Dr. James Bell.

Dr. Joel E. Goldthwait, of Boston, read a paper upon The Differential Diagnosis and Treatment of the so-called Rheumatoid Diseases, illustrated by stereopticon views. The following is a synopsis of the paper: The Morbid Anatomy, differential diagnosis and treatment of these conditions was considered, separating them for the purposes of study into the following types:

(1) Chronic Villous Arthritis, a purely local process, generally monoarticular.

(2) Atrophic, or Rheumatoid Arthritis, a chronic disease characterized by early and progressive atrophy leading to marked crippling, with little or no blood change.

(3) Hypertrophic, or Osteo-Arthritis, a local or general process, characterized by thickening and ossification of the edges of the articular cartilages.

(4) Infectious Arthritis, due to infectious organisms or their toxins—practically a septicæmia and associated with secondary anæmia and enlarged glands.

(5) Chronic Gout, characterized by deposit of urate of soda in the soft structures about joints, with some bone absorption.

A very full discussion followed the reading of the paper, which was shared in by Drs. Garrow, Blackader, Adami, Gilday, England, Girdwood and Perrigo.

McGill Undergraduates Medical Society.

FRANCOIS PETIT—1664-1741.

BY

C. F. COVERNTON, '05.

François Petit, known better under this name than that of Pourfour du Petit, was born in Paris on the twenty-fourth day of June, 1664. His parents, who were engaged in commerce, died during his childhood.

His studies caused him a great deal of application and trouble; he succeeded little on account of a poor memory. He had not only difficulty in learning but also in retaining what he learned. This difficulty grew less only when he was in his second year of philosophy. Descartes' Physics, which his professor taught him, pleased him greatly; he seemed born for that study, and he made it the principal object of his application during his whole life.

Desirous of increasing his knowledge in this branch, he began to travel as soon as his college course was finished; he travelled through a great part of the provinces of France and Flanders studying nature, and seeking out other students. One of these, to whom he became most attached and from whom he received the greatest part of his instruction, was M. Blondin of La Rochelle, who possessed a choice library, a garden of medicinal plants, and a cabinet of natural curiosities. This gentleman taught him anatomy, and ended by advising him to become a doctor. Petit followed his counsel, left for Montpellier towards the end of 1687, and entered there on the study of medicine under Chirac.

He took a course in Chemistry, and after receiving the degree of M.D. returned to Paris in 1690. He attended du Verney's lectures on anatomy, Tournefort's lectures on botany and Lemery's on chemistry. He soon obtained the esteem and friendship of these three great men. In 1691-1692 he passed in these studies, and also that of practical surgery, which he studied in the Charity Hospital. War having broken out in 1688, Petit presented himself for service in the hospitals of the French army; being accepted, he set out on 1st of April, 1693. He worked successively in the hospitals at Mons, Namur and Dinant, giving in all these proofs of his zeal, disinterestedness and capability.

He caused to be established in the hospitals themselves, chemical laboratories and dissecting rooms. He drilled his pupils in the knowledge of plants, in gathering them and how to prepare them in the proper season. He collected together in this way a large number of plants, which he dried with care, and these were the beginning of a description in thirty large volumes which he has left. After the peace of Ryswick in 1697 he returned to Paris, and the following year set out for the camp at Compiegne. But the succession to the Spanish Crown having caused war to break out again, he was once more employed in the hospitals. After the Peace of Utrecht in 1713, he took up his residence in Paris where he became a member of the Academy of Sciences in 1722. Hardly three years elapsed when he obtained the professorship of Anatomy, rendered vacant by the superannuation of M. du Verney. It was the reputation he had acquired in the different branches of his art that opened to him the doors of this celebrated institution. He excelled above all in treating diseases of the eyes. He thought out and had constructed an ophthalmometer, an instrument for measuring the parts of the eye, and several other instruments to direct the hand of those who were operating. One of the most important of these was a hollow glass globe representing the eye, the lens of which was affected with a cataract.

This ingenious man died at Paris, June 18th, 1741. His writings are published in a style noted for neglect, because he had never known or wanted to know what was meant by revising a work. Completely absorbed in deeds and experiments he thought little about phrases.

Not mentioning the memoirs which he transmitted to the Academy, his principal works are "Three letters from a hospital physician of the King to another doctor friend on the new system of the brain," published at Namur 1710; "Dissertation on a new method of operating for cataract," published in Paris 1727; "Reflections on discoveries in the eye," published at Paris 1732. One of the most important structures bearing his name is the Canal of Petit, a space intersected by numerous fine interlacing fibres, existing between the anterior and posterior laminæ of the suspensory ligament of the crystalline lens. It extends from the periphery of the lens nearly to the apices of the ciliary processes, and transmits the secretion from the posterior chamber.

In connection with the Congress of Arts and Science at St. Louis, the Department of Medicine will be opened on Tuesday, September 20th, under the chairmanship of Dr. William Osler, with two general addresses by Dr. W. T. Councilman, of the Harvard Medical College, and Dr. Frank Billings, of the Rush Medical College.

On Wednesday morning, September 21, a section of Public Health will meet the presidency of Dr. Walter Wyman, Surgeon-General of the United States Marine Hospital Service. It will be addressed by Professor W. T. Sedgwick, of the Massachusetts Institute of Technology, and Dr. Ernest J. Lederle, formerly Commissioner of Health of New York.

A section of Otology and Laryngology will meet at the same time: Chairman, Dr. Glasgow, of St. Louis; Principal Speakers, Sir Felix Semon, of London, and Dr. J. Solis-Cohen, of Philadelphia.

In the afternoon a section of Preventive Medicine will meet, under the chairmanship of Dr. Mathews, President of the Kentucky Board of Health. It will be addressed by Professors Ronald Ross, of Liverpool, and Celli, of Rome. At the same time with Preventive Medicine, a section of Pediatrics will meet under the chairmanship of Dr. Rotch, and will be addressed by Escherich, of Vienna, Jacobi, of New York, and others.

On Thursday morning, there will be meetings of sections of Pathology and Psychiatry. The chairmen of these sections are Drs. Simon Flexner and Edward Cowles. Marchand, of Leipzig, and Orth, of Berlin, have accepted invitations to address the section of Pathology, but it is not certain whether both will be able to attend. Psychiatry will be treated by Ziehen, of Berlin, and Dana, of New York.

In the afternoon a section of Neurology will meet, under the chairmanship of Professor L. F. Barker, of Chicago, and will be addressed by Kitasato, of Tokio, and Putnam, of Boston.

There will also be sections for Therapeutics, Internal Medicine, Surgery, Gynæcology and Ophthalmology and it is hoped that this programme will prove attractive to such leading members of the Medical Profession in America as may be able to visit St. Louis and take part in the proceedings of the Congress.

The position of Resident Medical Officer, or House Surgeon in the Vancouver General Hospital will be vacant on September 18th. This hospital has at present 60 beds, but additions are being made which will increase the accommodation to 150 and ultimately to 300 beds. Application may be made to the secretary, Wm. Skene.

THE

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SOME INTELLECTUAL WEEDS OF AMERICAN GROWTH

BY

GEORGE M. GOULD, M.D.,

Philadelphia.

In no other country or time has there been such a strange luxuriance of intellectual and social weeds as we are now and here growing on American soil. Any attempt even to sketch a historical review of them would require a volume. It seems impossible in speaking of them to avoid the use of the word crank. Our crankism is such a strange jumble of inconsistencies that there is no old word by which it may so well be named. The patient's diseases are old, it is true, but he seems to have all the old quack diseases all at once, and that makes at least a new symptom-complex. The connotations of the term crank are such that the subject is recognized as not actually or entirely insane, and yet always partially so, sometimes and in some ways perilously near, possibly really over the border line. He is also in some respects sane, or possessed of a cunning that adroitly simulates sanity. To an extent, or as regards some things, he is sincere, in one or two positively fanatical, but again he shows the previous psychologic contradiction of keeping some parts of his brain normal. His mind is evidently constructed on the water-tight compartment plan. All of this is also part of the suggested meaning of the word crank. Again, he is as to certain objects unselfish, in reference to his hobby furiously so: but there is never absent the attribute of a spider-like watching for "the main chance," a highly developed astuteness in getting money from the greater fools who trust him. He is intensely ignorant, and as inordinately egotistic, and all of that is latent in the word crank also. Lastly, "he" is often a woman, and the word must be stretched to cover that noteworthy fact.

The morbid egotism of the cranks is perhaps the most striking thing that appears in all the books, periodicals, writings, preachings, and doings of these strange people. Alienists well know how egotism rules the minds of their insane patients. Mentally diseased the cranks

plainly are, normal cerebration being disturbed and irregular, or more commonly undeveloped and atavistic. Strip the mind of the higher educated and social results of evolution, whether by disease or by utter failure to keep up with civilized progress, and the egoistic instincts, the primal and basic of the *principii individuationis* are all that it has to fall back upon. Egomania raves and wantons pathetically, but also ludicrously, in every page of these sorry eddyites, "vibralogists," "mental scientists," distant healers, and ranters of a multitude of subvarieties. The keynote of all the teaching is the infinite value of "I," the unlimited power of it, the eternal emphasis and repetition of it. In the worst cases and magazines the editor becomes one with God, and his sentences for pages are entirely meaningless drivel and word-swash, and one wonders how soon there must be a writ *de lunatico inquirendo* and a commitment to the asylum.

An interesting result of this uprush of commingled egotism and ignorance is that it pretends to be new, while in reality it is the living on of the old dirty medievalism which all historians know so well. One of the amusing characteristics of another "school" of medicine was its claim to be a brand new school, while it affected to look down upon the "old" school of scientific medicine. What was new was the laboratory, the science of the germ theory of disease, hygiene, scientific diagnosis, and the laws of health. What was "old" was the itch theory of disease, the mythical supernaturalism of high potencies, and a remaking of the medieval doctrine of signatures. So in the "New Thought" there is nothing newer than the African's voodooism; in the "New Christian Science" there is no newness, no christianity, no science. In vibralogy there is nothing but medieval magic and miracle mongering, and in osteopathy there is only the old English bonesetter's ignorance, plus the old impertinence of the old quack of the olden time. In other words, the entire brood of modern medical crazes and crankisms, while furiously contending that each is new, is in every cell of their being the very demonstration of the utter lack of the new or modern spirit, of the mental incapacity to take it on, or even to see it. Every modern discovery in biology, sociology, and medicine, is ignored. It is the spook of the middle ages ludicrously gibbering in a really new epoch of science, skill, and reason. It is atavism pure and simple; the old barbarism freed by democracy. It is a sequel of a rapid growth of the intelligent in many while the rest, not growing, become the neglected residue of stranded incapables upon our hands. Our punishment is the warning that in the last resort we are responsible for the wreckage. The only way we can abridge the evil is to set about the duty of primary physiologic and social education.

Whenever a quack advertises, the most prominent part of the advertisement, the most of the costly space is occupied by the portrait of the great man. The more a man in the regular medical profession approaches to quackery and secret advertising the more his photograph appears in the lay or socalled professional journals. When vanity or money-making enterprise becomes an outspoken disease this tendency is illustrated most amusingly as well as instructively. In all the literature of faddism and crankery the everlasting photograph appears, and in one journal every contributor's picture heads his article, and each of the dozen "editors of departments" has the inevitable photograph in every week. The *New Thought* advocates and editors are especially prone to this sort of thing. The pictures of "Ella" and of "William" and of "Elizabeth" are everywhere. (They call each other in this familiar way in their papers, so no disrespect is implied here.) Ella's rings and arm are very "fetching," and William's (one of the Williams) stern piercing glance transfixes you with true Hubbardesquesness. But Elizabeth's photograph would certainly scare away an intending lover, so indescribably terrible is it. "Glasses" would not "destroy that magnetic gaze." She publishes and sells her own books, and praises them too, as straight at you as her photographic eyes would indicate. Each copy of "The Constitution of Man," she says, "is full of power and inspiration," and "contains a speaking likeness of the author." "Experiences in self-healing," "is the latest and greatest of my books" (each is always the greatest), "alive, helpful, inspiring. Beautiful book, good picture of me."

Indeed, the mark of morbid self-consciousness is in every article and sentence of most of the crazy or crank literature so rampant among us. It is not only marked by it, but is rather drenched in it, so that teachers, priestesses, and humble pupils seem to delight in standing and paddling in their own slush. It is an old and well recognized law of disease and insanity that one is unconscious of healthy organs. Most people, for instance, go through life without a moment's attention to their knees, their ears, or their "desires." But let them get synovitis, middle-ear inflammation, or the New-Thought disease, and at once all their attention is absorbed by their knee, ear, or "mind." In all of this literature, "psychometry," fortune-telling, "character readings," "somnopathy," phrenology, mediumship, "graphology," "astrology," "self-healing," hypnotism, occultism, and a hundred forms of morbid "ministering to the mind diseased" form the staple of "instruction," the substance of page after page of magniloquent nonsense, and more important still, fill all the advertising pages to repletion. The personal answers to correspondents illustrate it to satiety. "How shall I

get rid of the fear?" "How prevent mean thoughts?" "Is the love between the sexes incompatible with the highest mental states?" The jealous wife, "misunderstood woman," misunderstandings with husbands, how to get well, "Soul-mates, the wearing of glasses and the magnetic gaze," bashfulness, the second divorce—these are some of the things the editor takes upon himself to write about to the victims who appeal to him for advice. "Thought-Force" is a book by one of the omniscient teachers, and its purpose is thus stated by him to be:

> A wonderfully vivid book answering the questions: Can I make my life more happy and successful through mental control? How can I affect my circumstances by my mental effort? Just how shall I go about it to free myself from my depression, failure, timidity, weakness and care? How can I influence those more powerful ones from whom I desire favor? How am I to recognize the causes of my failure and thus avoid them?
>
> Can I make my disposition into one which is active, positive, high strung, and masterful? How can I draw vitality of mind and body from an invisible source? How can I directly attract friends and friendship? How can I influence other people by mental suggestion? How can I influence people at a distance by my mind alone? How can I retard old age, preserve health and good looks? How can I cure myself of illness, bad habits, nervousness, etc.?
>
> "Thought-Force" gives an answer to questions like these.

It is evident that here is a new disease in the world, genuinely epidemic, too. The diagnosis is easily made, but is there any therapeutist would dare suggest a treatment?

When the history of the outbreak of mental disease which its adherents call "Christian Science," "New Thought," "Mental Healing," etc., comes to be written, it will be found that not a little of the responsibility for its existence rests upon New England transcendentalism. As regretfully as one may say it, Emerson is their favorite philosopher, or was once so. Of course, neither this noble man, nor that popular movement, is entirely responsible for the present day examples of mental degeneration and disease. So far as one can learn, these people have no care for anything outside the dizzy whirl of their monomaniac ideas, or preferably, lack of ideas, and far from knowing anything about so ancient a person as Emerson they reck not and know not of any interest except "vibralogy" and the repetition of a meaningless lot of words. In one or two instances there is a glimpse of the fact that they have a vague idea of an outside world, as in Wilmans', for instance, but it is only of the world of phantasmagoric newspaper science (as, *e.g.*, "a life powder compounded by a Chicago physician to revive dead animals") taken in all seriousness. In one or two things all are united—in treating disease by "absent or distant treatment," and getting money therefor, in hating doctors, and the "postal underlings" (for excluding their purely commercial fraud

journals from the mails). All agree the Cain of the primal couple was sired by Quimby and dammed *(absit omen!)* by Mrs. Mother Mary Baker, etc., and the parents were only "spiritually" married! But the accident of names is as nothing. All names sit lightly on the consciences of these ladies. So under any other names the epidemic must have come. The conditions were such that the result was inevitable.

The psychology of eddyism, best illustrated in the latest sectarian degenerative end-products, is familiar to all alienists and students of insanity. A healthy mind cannot read the socalled "new thought" journals for an hour or two without the overwhelming conviction that these people are really insane. The wonder is that they have preserved so much commercial cunning. The money aspect, pay-in-advance for reading notices, for absent treatments, for "psychometric readings," for books, for "vibrations," for insuring "success," for shares of mining stocks, for letter pads, for journals and lectures, and all that—this is never forgotten. It goes on, however, at the same time and in the same columns with the dreariest waste of reverberating words, words, words,—utterly without meaning, and utterly without end. There are tons of such printed stuff as this going out every month:

> Unity is Non-ethical. It simply is. God is! Energy is! Power is! Light is! Life is! Thought is! Love is! Attraction is! Electricity is! Man is! Existence is the beginning of our search for happiness. Existence is non-ethical. It is a mistake to call God good.
>
> I see that my strength is God, and therefore I know no weakness or tired feeling. I am eternal energy. My peace is God, and therefore I am eternal harmony. All presence is God, and there is no presence of sin. All existence is God, and there is no existence of evil. I affirm the allness of truth. I am the truth, for there is not anything for me but truth to be. I am the whole truth, as it is undivisible unto parts. I see that I am truth and all goodness there is. I can not be sick for my life is the almighty.

Grammar and spelling are matters of indifference also. Prior to Mrs. Eddy, the fashion of scorning the accepted meanings of words, had been well set by inflamed egotism and transcendental enthusiasm. But to call an unfaith "Christian," and an idiocy "Science," was left to that daring lady and her followers. The habit of misapplying words, of making any word express any fact at pleasure, is characteristic of insanity, and when words themselves lose all meaning and become a jargon of monologue—then the end is not far. In the same sequence of sentences, a mental healer will claim that all drugs are violent *poisons*, POISONS, POISONS, and that they are also inert, dead, wholly without effect on the system. Left without support of religion or government, relieved from duty and poverty, with not a scrap of knowledge, the wrecked mind must feed upon its own vanities and fancies, call itself God, and sell "healing vibrations," "cash always in advance."

In commercial medical journalism, the owner-publisher will usually allow his professional servant-editors and contributors sufficient freedom to write about their little professional matters, as they please, providing, they do not interfere wih his advertisements, reading notices, ways of making money, etc., and especially if they, the editors, annually accept a sufficient number of articles lauding advertised preparations—there must not be too many, or they would excite suspicion and destroy professional support, but they must not be so few—and, heavens, not none at all !—as to discourage advertisers. It is strange how this same problem presents itself elsewhere, and even in the divine and inspired journalistic organs of the popular new religiometaphysicomedical crankeries, multitudinously named. In these periodicals, the advertisements are not confined to any certain pages or parts of pages, and the publishers of the books of the editors fill their own reading columns with reading notices, and puffs, as unblushingly as the worst of our enormously circulated "medical" journals. In one of the most successful of the crank journals, the editors sing their angelic songs of science and drugless healing, in charming ignorance of interspersed pages by the publisher (who plainly has his way with every column as he will) in praise of his Food Company remedies, his Tobacco Company, his Iron Ore Company, etc. He frankly confesses, his journal subscribers have subscribed many tens of thousands of dollars to his business enterprises. He is evidently a very astute promoter.

When one makes a study of the earlier weeds of morbid psychologic literature and sects, and after he has grown tired enough of Mother Mary Baker Glover Patterson Eddy and her children, he will next come upon the "New Thought," represented best by a journal of that name, edited by Ella Wheeler Wilcox and William Walker Atkinson. (In proportion to the fame of great ones, the entire set of names must be spelled in full.) The perusal of a half dozen numbers of this periodical will only take an hour or two, and although so far of much interest, and instructive, one will then begin to tire of the thoughtlessness of the new thought, and of its oldness, and especially of its puerile and repetitive lessons. One will get a wearying conviction that if, as the publisher avers, there are 100,000 subscribers who find this childish stuff adapted to their needs, then surely the schoolmaster is not abroad in the land, or he is not doing his duty very thoroughly. Had we space, we would like to reproduce a few hundreds of excerpts we had marked. There is nothing directly vicious or nauseating about it, as is so common in other forms, but it is, of course, indirectly morbid. The people who are ministered to, and treated, are surely sick, very much so, mentally and socially, but the teachers, the high priestesses, and their little amen-sayers, the priests, are surely much "sicker."

One thousand dollars were given, in fourteen prizes, by the publisher of *New Thought*, for the best definition, within ten words, of "New Thought." The following were the definitions, winning the prizes—the first of $500, the second of $250, etc.:

Being and doing one's best by repeatedly affirming one's ability.
We are what we assert ourselves to be.
Claim that you are what you desire to be.
The cheerful, persistent assertion of the soul's prerogative to rule.
Continuous affirmation of whatever helps us achieve our highest possibilities.
Attaining the ideal in life through thought concentration and assertion.
Mental imagery, personally controllable, governs bodily health and individual circumstances.
Holding constantly before one's thoughts the omnipotence of man's mind.
Human development through recognition and assertion of human divinity.
The control of mental force by positive, concentrated, ideal suggestion.
Relization of ideals by becoming them through force of desire.
Benefiting or injuring others and ourselves reciprocally through thought force.
Fear nothing; love everything; believe you can do anything.
The recognition, realization, and manifestation of the God in me.

It seems, therefore, that the more one claims, regardless whether he has it or not, the more egotism one cultivates, the more one ignores facts and lives in indifference to them, the more one ignores disease and treats himself, or hires "absent treatment," by means of "vibrations."—the more one "realizes the God in me."

One of the "New Thought" journals is called *The Nautilus*. Holmes' poem will be forever spoiled for anyone who has ever read this periodical. "Build thee more stately mansions, etc.," is the motto of the title page each week. One of the recent numbers devotes a page, or more, to the thesis, that "The root-cause of all so-called self-consciousness is really self-unconsciousness, a lack of self-knowledge and self-valuation." So morbid has morbid self-consciousness become, that it is even encouraged as a virtue. Vanity is here deliriously inflamed. A praised illustration, that extends through the columns of one of the articles, is that of a girl, who spent her life in practising poses, facial expressions and tricks of speech before a mirror, cultivating blushing, as she had learned it was pretty and becoming, etc. We are informed in the fourth column, that "self-knowledge *includes* a knowledge of the universe as a whole, and of every human being as a part of the whole." *The Nautilus*, according to motto No. 2, is "devoted to the art and science of self-expression." Ida C. Craddock (arrested for abuse of the mails with obscene literature) is called editorially "a sweet, earnest, clean soul, who chose, for the sake of forcing her teachings upon an unready world, to butt her head repeatedly against the stone wall of the law, etc." One of the editor Elizabeth's new, greatest, latest, most inspired books, "Just How to Wake the Solar Plexus," explains—let us say everything, but chiefly man's relation to the sun.

shows what the solar plexus is to the human body, how to control emotions and thoughts, to develop concentration, kill fear, etc., and to insure the attainment of a strong poised selfhood. The advantages to purchasers is shown by testimonials; we have space for only one:

J. F. Willis, Breckenridge, Colo., writes:—"I received more special benefit from one reading of 'Just how to Wake the Solar Plexus' than I have during a period of ten years with medicine chest and doctors' bills of over $800, aside from much time lost."

The editor prints the following letter from a subscriber:

I am enjoying a vacation and rest from all care and responsibility, where my friends hope to cure me of my belief in astrology—the best place I could ask to be in for study and observations of extremes of character, etc. Please send *Nautilus* here. *Others here as well as myself will appreciate it.* X. Y., Manhattan Hospital for the Insane, Central Islip, L. I. [Italics not ours.]

Of "Elizabeth Towne's Experiences in Self-healing" she herself says:

Those who want real experiences in the new thought and its application will find this book a mine of information. I have shown plainly just how I grew up in new thought, healing myself of almost every imaginable kind of disease from heart trouble to the catching-cold habit, from all sorts of chronic and acute things, and from all sorts of faults of disposition and temperament. I have described every method I used in overcoming not only diseases mental and physical, but poverty as well. And incidentally I have described at length the methods I have used and evolved in the healing of others as well as myself. Not a thing in my experience have I glossed over or omitted. The book is an inspiration and has been written in a white glow of purpose to reveal a soul's efforts and progress and accomplishment, to the end that other soul may see and understand and be inspired to greater self-conquest and self-expression. It contains more of me than anything, or all things else I have written.

To cure asthma, beside vegetarian dietetics, "mental breathing," and physical ditto the patient is instructed to read "Solar Plexus" book every day for a month and get into the spirit of it and shine for dear life all the time! She is to stand or sit straight, chest out, and breathe down and out, taking pains to hold the breath and then let it out more slowly and evenly than she took it in. With each breath she is to mentally affirm, I am whole, or I am love, or I am power—using one affirmation for each day. "Solar Plexus" book tells how. Above all and in all she is to wake up and go at it with a will. To put will into bodily action is the cure for asthma. Will is just what an asthmatic is averse to using, will and persistence. Asthma means a curled-up will and it is not easy to uncurl it.

Baldness can be cured:

Perhaps you will ask me "what thought you are to hold" for dying hair. This item is written presumably for those who have been "holding the thought" without apparent results—as I did for several years. Then it came to me that I must supplement "the thought" with action. So I went to studying causes and thinking out what to do. I've been doing it. Faith and works will accomplish anything. The only thought to hold for dying hair is the thought of life. Keep thinking it right in with every rub of your finger-tips until it gets to thinking itself without special effort.

The following questions and answers of puzzled correspondents are to be noted:

"When you treat yourself for a cold who is doing the treating, the objective or subjective self? Does mortal mind tell the spirit to do so and so?" B.

There you go calling yourself a "mortal mind." You are immortal mind. When you talk or treat it is immortal mind, talking or treating—talking to itself and treating itself.

"When you pray is it the God in you talking to the Universal God?" J.A.

Ye gods, no! It is the Universal God talking to himself. You are the Universal God. Crawl up out of that little tadpole you and spread your wings in the Universal.

"I wish you would have more to say about treating."

Why, everything I say is "about treating," and everything is a "treatment." Everybody on earth is treating all the time. If he isn't treating for health he is treating for sickness; if not for happiness, then for grief; if not for wealth, then for poverty. Every thought is a treatment, and every individual has the power of choosing what he will think. Choose ye this minute what you will "treat" for. Treat yourself and your relatives and the whole world, etc.

"*The Success Circle*" is the title of an enterprise thoroughly advertised by *The Nautilus* and its editor, with the incomparable photograph attending. It says:

The Success Circle is designed to aid all who are seeking to better their condition by understanding and applying the laws of mind. It is simply a very large class of students who are being taught, through my writings and my silent Word, the principles of success; who are coming into touch with me and drawing inspiration to go in and win for themselves. What I teach I know. I have practically demonstrated every step of the way, from a state of dependence, to one of freedom and power to command. I know how I did it and I can tell others how. I teach by the Word (*i.e.*, statements of truth) printed in my book, "How to Grow Success;" printed in the monthly letter to the Success Circle, published on page seven of each number of *The Nautilus*, and conveyed telepathically to the members, whom I treat individually and collectively. Water is free to all, but if some man pipes it to your kitchen sink you have to pay him, not for the water, but for the piping. I have piped the Word, the creative power of the universe, and I offer it to you as the printed Word, in my book and paper. For these I ask a reasonable price. You pay for nothing but the book and paper. For the Word conveyed telepathically I make absolutely no charge. My silent Word, or statement of truth, goes out to all the world, and whosoever will may receive and vibrate with me for the upliftment of himself. Each copy of "How to Grow Success" contains a three-quarter length portrait of the author, and is signed and numbered in my own handwriting.

As to the success for the author of the Success Circle there is no question; and none, according to the testimonialists on their part. Mrs. Jones's health and "good looks have improved 100 per cent.," and "Mr. Jones's business is everything we could wish for." It brings rain and good crops to Mr. and Mrs. Joseph Jackson, of New Athens, Ill., when their neighbours have none. Mr. Ridout, a land agent, of Bruce, Wis., writes:

The year previous to joining the Circle was quite uneventful in a business way; it started on a jump the very day I got your receipt for the money sent to join the Success Circle. Note that I am in the real estate business, and I sold more land the very day I got your receipt than I had sold in the six months' previous, and nearly every day since I have had all the business that I could attend to. People marvel at my success. My daughter found employment the very next day after getting her receipt of membership.

Dr. James W. Cormany, Mt. Carroll, Ill., says:

I am getting every one I can to join the Success Circle. I have increased my business 50 per cent. Now that "ain't to be sneezed at," when I was doing a good business before.

Even electricity obeys the all-commanding Elizabeth, for C. E. writes:

I am happy to say I am succeeding in the line of my desires since joining the Success Circle. Am night watchman in a large manufactory, and some of the machinery is kept running all night by electricity. Now I have noticed that when things go wrong with the electric current or the machinery it is when I am out of tune myself. So now, when I find myself raking over old troubles or dwelling on wrongs, real or fancied, I say to myself, "Look out, old boy, some of this machinery will be catching the melancholic and making trouble for you." Then I pull myself together and look on the bright side.

Without comment, and properly so, the editor of *The Nautilus* copies the following from the *Boston Herald:*

Tenderly she laid the silent, white form beside those that had gone before. She made no outcry, she did not weep. Such a moment was too precious to be spent in idle tears. But soon there came a time when it seemed as if nature must give way. She lifted her voice, and cried long and loud. Her cry was taken up by others who were near, and it echoed and echoed over the grounds. Then suddenly all was still. What was the use of it all? She would lay another egg to-morrow.

Another of the "New Thought" periodicals is called *Freedom*, and is said to be of "Realistic Idealism," published at Seabreeze, Florida. We cannot give the editor's name, for she—it is, of course, a lady that edits such journals—has a multiplied personality and many names. These are some of them, scattered everywhere through the samples before us: Wilmans, Helen, H.W.P., Wilmans Publishing House, Helen Wilmans Post, Helen Wilmans, No Signature, etc. Financially Helen seems the most successful of all the New Thoughtists, Mental Healers, or whatever name one should use to describe them, and there are occasional glimmers of sanity to be found in her paper so that one may be hopeful even of this large class of the American people and of their mental convalescence. The greatest of the complaints of Helen and of her publishers and contributors is of Postmaster-General Madden. The violence of the language against the "postal underlings" of the Government for excluding *Freedom* from second class rates is unworthy of the divine people for whom "there is no evil." And all this in the same issues which contain the legend, "entered at the postoffice as second-class matter." It is incomprehensible. The papers "multed" or suppressed, it is said, are "those devoted to the promulgation of ideas not in harmony with the postoffice officials." This seems unnecessary, and contradicted by the columns of reading notices and advertisements of the editor's and publisher's business enterprises, books, lectures, etc., a column or two of one editorial being devoted

to the publisher's Letter Tablet, price 25 cents. The editor's financial ability is thus spoken of in her own journal:

Mrs. Williams Post claims to have mastered poverty by using her power to think; that by concentration of thought on money she has drawn wealth to herself as if to a magnet; and certainly her large financial income and magnificent properties in Florida give indications of her success in raising herself from a condition of most abject poverty to one of unlimited opulence. In her famous book, "The Conquest of Poverty," she sets forth her modus operandi.

Has Helen attended the school she advertise—"The Washington Sanatorium and School of the Art of Attracting Opulence?"

Like all these descendants of Dr. P. P. Quimby, of Maine, plus Mother Mary Baker Patterson Glover Eddy, "Freedom" most of all things, hates medicine. Its pathology is as naive as would be expected of those who do not believe in matter or disease, and who have never studied any other kind of science than that in Chicago daily yellow papers. "Chronic disease is the gradual accumulation of dead matter, etc.," and "sickness is an effort to cast it off." "The effort in all cases of healing is that of the mentality, or spirit, endeavoring to free itself from the accumulated beliefs of the ages, etc."

It is thought alone—the right kind of thought—that has the ability to cast every element of decay out of our bodies by quickening the springs of action within them. Is the liver torpid? Thought can cast out every obstruction to its perfect action. Is the heart sluggish and the circulation slow? Thought can remedy this. And so of every organ; and with every organ renewed how can it be possible that the whole body should lag behind in sickness and distress, and how should it die? We know positively that thought can renew the various organs in the body.

Renewing organs by thought, is however, a small part of the claim to omnipotence. Helen says that she has an "entire conviction in the ultimate conquest of disease and every form of bodily weakness. This leaves us with the perfect right to assert the possibility of conquering old age and death; and I want it understood forever that I do assert it; that I believe in it with my whole mind, and that I work for it with every breath I draw."

Alopaths (it is always spelled so) and homeopaths, all drug-givers, and such despicable folk are "on the run," and, "Medicine is played out. Every new discovery of bacteria, shows us that we have been wrong, and that the millions of tons of stuff that we have been taking was all useless." "Any drug is a poison. Anything that cannot be digested and assimilated into the body is a poison. The drug has no power of action at all. It is utterly dead." What Helen and company understand by "doctors" may be gathered from this:

I have taken it upon myself to interview some of the persons whose pictures have appeared, with statements over their own signatures that they have been healed; and invariably I have found that the person was not healed at all. One man in this city, when I asked him why he gave his picture and statement which I saw in a daily paper, replied:

"Well, they took me over there and washed me out and filled me up with stimulants and electricity until I felt so good I thought I was healed. While I felt so well, they put the statement, you saw, under my nose for me to sign, and got my photograph. But after I had been home two weeks I was worse than ever I was before."

The faithful healer, however, is thus encouraged, thus encourages herself, or himself, or itself:

What matters if others reject you when you have once perceived the wondrous potencies of your Personality, the Shrine of the Infinite, the Tabernacle of Genius?

Another Journalistic illustration of the new miracle-mongering, is called *The Golden Rule*. It exemplifies the fact that "Christian Science" is a great promotor of that type of insanity which is not inconsistent with financial cunning. This journal claims 10,000 readers, and even if this is not true, the ability to pay the printers' bills on the part of the hundreds of these wild and morbid periodicals, tells of the vast amount of such mental alienation and of how near a great part of the race is to absolute insanity. It is plain that we may not safely ignore the fact, and that "smiling it aside" is not wise. From page after page of *The Golden Rule* not a hint of real thought is to be grasped, except when it comes to the "cash in advance" commands, and then it is all very clear and business-like. Two brothers seemingly edit, but it is "I" that speaks, very ungrammatically, but as "I" says, "grafficly" We cannot spare space for interesting examples of psychopathic word-rubbish, in which Brother "I" proves himself divine, and more; that "the universe is a man, male and female;" that "the universe is my institution, I heal the sick, etc." When "a devout member of organized religion," he-they got "catarrh of his head and stomach in fighting the devil, and other troubles," but "when truth came to his vision," he ceased to deny "his desires for tobacco and dancing."

I kept on eating everything that my appetite craved until there was perfect agreement established and my stomach trouble was cured. To my catarrh of the head I said, go ahead if there is something about my head that needs to be taken out or destroyed, I want you to do it. I am Spirit and nothing in heaven and on earth can hurt me. I have healed all kinds of diseases and casted out devils. Every day I am laying hands on the sick and they recover. I have taken up serpents and drank the socalled deadly poison and it did not hurt me. I speak with a new tongue in the way of explaining the Truth. Not only have I casted out devils out of one or more persons but out of the whole universe.

I think infinitely. There is no limit to the harmonious power of my life. I help people far and near.

Terms for treatment is five dollars per month, cash in advance.

RATZLAFF BROS.

"M.D.'s are requested not to send him-them their circulars, and telegrams and cablegrams are not desired, as he-they are so "busy giving treatment, till late at night, for all kinds of diseases, including poverty, and writing letters. Five dollars per month in advance." Mother Eddy has much to answer for.

But the *New Thought* has a still *Higher Thought* which is said to be "a journal of Realization," with the motto, *Ye are Gods*. In praise of its foremost writer of the forelying issue it says he has been a "jack of all trades" and has done almost everything—"carpenter, gardener, homesteader, herder, hygienic physician, pioneer in Kans., Tenn., and Fla., book-agent, farm-laborer, orange-grower, poultry-farmer, professional nurse, newspaper-correspondent, story-writer, poet, editor. At twelve was a dreamer on Socialism, at thirteen an Atheist and in a few months converted, and by rapid stages Calvinist, Armenian, Swedenborgian. At one time a revivalist, later a working student in a hydropathic college. Became Agnostic about twenty-one and remained so till receiving the illumination of the Dawn Thought."

"The next symposium" is to be on "the sex question." It all finally comes back to a question of "health and disease" with these wonderful metaphysical, supernatural journals. One would suppose all the "Gods" (the "editors"—and their "patients," who also are "Gods") were in a strangely bad state of health, although each one of them is "the perfect idea of perfect mind." "I am all; I have all; I know all, for I am the likeness of all; all is now." "Health is the direct result of harmony and harmony only exists through agreement or oneness." I want to tell you," says one correspondent, "that spiritual poise is all right." "Highly successful in treating absent patients;" "distant treatments for health, wealth, and success" are advertisements of other "healers," and Weltmer has come into the Higher Thought! Weltmer is one of the "Gods," with all the other advertisers of "drugless science," of "Realization," of "Books of Health," "Breath of Life," "The New Man," "Purity Journals," "Free Healing," "Life's Great Healing Law," and all the rest!

Health is sought so avidly by the self-conscious cranks as to indicate a sad state of disease in them. One of the sects is called *The Ralstonites*. This is no cynical name bestowed by enemies, but one they give themselves. The book before us is entitled *General Membership Book of Knowledge of the Ralston Health Club Leatherette Binding*. On the title page it is said to be *(84) eighty-fourth (84) Edition (84)*. It is the first attempt so far as we know to build up a secret organization in health-study or health-practice. "If there is any secret society about I want to get on the inside" is the thought which has preceded many strange gatherings of men. There are many degrees of wisdom, at least five, although "hundreds" are spoken of, the "Inner Circle," "personal magnetism clubs," etc. But there are dire punishments for betraying secrets, not keeping pledges, etc., and one is made to feel that invisible detectives and spies are dogging one's footsteps. "No

subterfuge or indirect action will remain long undiscovered."..... "It will sooner or later be discovered and will cause the loss of all rights as a Ralstonite and the loss of respect in the community." The loss of "all rights as a Ralstonite" must be a serious matter indeed, judging from the following quotations:

"No one pretends that there is any other channel of help to mankind except that offered by Ralstonism."

"We believe that Ralstonism is the lever that has been designed by the Creator for the work of uplifting the world."

"For a quarter of a century the great cry of Ralstonism has been its determination to create a new race of men and women."

A few thousand years ago, says Mr. Ralston, men lived to be centuries old. Such is the anthropology of this scientist. "Glame" is the word he has coined to designate the form of health-vitality. Such is his philology. There are 2,237 maxims listed in this book with "leatherette binding," which constitute the most amusing mess of nonsense, a seriocomic gathering of dietic and physiologic "tommyrot" beyond compare. Antidruggism sticks out everywhere. Let examples speak:

Perfect flour-making is rapidly spreading under the name of the Schweitzer system.

Wheat, being a perfect food, was the first cereal on earth.

Onions tell if the bowels are out of order.

Diabetes is the turning of the blood to sugar.

The vegetable kingdom includes everything not in the animal kingdom.

Honey is about one-eighth flesh.

A well-known man who was very fond of sucking pig has recently died a horrible death from cancer.

Eaters of lamb meat are of gentler dispositions.

Meats give brain power, but will not build minds.

The excretious of ministers after sermons show that a thinking man excretes more phosphorus than a laborer.

Dried herring dries up the blood.

Consumption is often due to iron.

All water comes from the clouds.

Nearly all cases of typhoid are due to well water.

Hot milk snuffed into the nose has cured catarrh that defied all medical aid.

The natural treatment of catarrh is different and is in Ralston Franchise at Fifth Degree.

Failing eyesight can always be prevented.

Glasses may be discarded by restoring the eye to its true shape. "Ralston Gardens" describes the treatment.

The optic nerve is weakened by too much starchy food.

In diphtheria, lockjaw, and other torturing maladies the agonies inflicted by germs are unnecessarily excruciating, malicious, malignant, cruel, relentless, satanic, and devilish.

The body is part of nature's general plan.

The faculties should remain stronger than the functions.

The sunrise sky is the golden field of hope.

The sunset sky is the rich meadow of peace.

In the last decade of the last century Ralstonism reduced the death rate by 10 per cent. in general.

We are sure Mr. Ralston is correct when he emphatically says "Ralstonism can never die." Neither will morbid ignorance. Seriously meant fun and selling $25 books for $4.44 are also eternal.

Not only the *New Thought* but these uncouth faddisms are generally based upon the healing business. *Christian* is the name of a "New Thought" periodical published in Denver, Colorado. The New Thoughtists praise it as illustrating the humorous aspect of the faith. With avidity, therefore, one seeks some relief from the solemn earnestness, serious as an insane ward, of all the other journals and writings. The intent and conscious purpose, it must be emphasized, because unintentionally and unconsciously they are far more mirth-provoking than any writing of Mark Twain. The editor of *Christian*, we suspect, would not claim any christianity for himself or his periodical—the "humor" may lie in that—although he tells us he is an "ex-preacher." His wife, of whom he is always writing in his editorials, he says, is an "ex-actress." Regretfully one must confess the humor, if intended, is not present. It is all as dreary as a "comic opera." Of the intended kind the constant calling of his readers "sweetheart" and "darling," and the iteration of such colloquialisms as "in the soup," "bucking against the postoffice department" (Mr. Madden would not let him in), "Shake, my dear girl," "Let him have his jimjams," etc., are illustrative. From a most serious "poem" occupying the whole front page, and composed by a famous member, three disconnected lines should also be excerpted:

"Tinkering of thoughts tobasco."
"Free from mustard meditation."
"Not a new food, nor a long-stunt."

Because there is so little fun in our own or in any method of "Healing," we reproduce a few extracts from the last number of *Christian*. The editor of this periodical should be encouraged because, however unwittingly, he is bringing the eddyistic and vibrational healing business to its legitimate and logical *reductio ad absurdum*. The editor and healer writes:

Give the healer a fair chance, and don't mix mental methods. The other day, a lady wrote, complaining that she did not improve. She said she had written to C and B and A and M at the same time that she wrote me, and had put her case in the hands of each of us. Five healers! It is a wonder she isn't dead or crazy! It is unfair to all of us. Mental medicine should not be mixed. I want you to myself or not at all.

I am the light of the world. I am all the light of the world. I am the light in the jack-o'-lantern and the light of the lightning-bug and the light of the sun.

The leaders of this modern metaphysic movement have not not made good in the way of healing themselves and others. Ostrich-like, they stick their heads into the sands of sect to hide their defeat.

The socalled New Thought is smelling a little musty. Throw it away, even if your old body should go with it.

Don't blame me if all the beautiful women on earth flock to *Christian*. It is by the law of attraction, for the I am is "the fairest among ten thousand, and the One altogether lovely."

Christian has had to fight for every inch of ground. It is now the only periodical of its kind on the planet. It is denied second-class postage because it is the

voice of the Free Spirit. Let all who are going to die prepare for death. I am here to stay. I defy disease, death, and the devil.

Christian is given five distinct treatments before being sent out in the mail. My wife and I transmit to its pages all the power and glory and love of our own lives. It is our kiss of love to all of you!

Baby Blanche is busy with health, but when she needs a doctor, I will not hesitate to send for one.

The new thought public had rather read how Thomas Jefferson Shelton actually cured himself of corns than to peruse the finest strung, theoretic article which the sedate and saintly *Essence*, or the grave and ministerial *Mind*, or the Puritaical *Ideals* is able to produce.—[*The Nautilus.*]

Some time ago an enterprising healer of the Southwest gave much amusement to his friends and enemies by instructing patients all over the world to lie down exactly at a certain hour of the day, and at that minute the absent healer would think of them and send forth the miraculous vibrations to cure each according to his receptiveness and need. The man had forgotten or had never heard of a complicating difference in time between the clocks of Kansas and Maine, San Francisco, and London, whereby his vibrations, instantaneously transferred, would not arrive at all on time. In the latest number of *Christian*, the editor, on page 8, says he is sending out 30,000 copies of his paper every month, and to each person he also sends the healing and success vibrations. Also, on page 8, he says the name of each of these 30,000 persons is "called every day in the healing-room." It is strange that the miracle-worker forgot his multiplication table. If at a high rate of speed of the caller, and a still higher rate of the vibrator, surely not over 30 names could be correctly read and called in a minute continuously by one caller. The "healing" would, of course, be easier. At the auctioneer's best, 1800 names an hour would severely tax the larynx and would be extraordinarily good business. Thus to get through the 30,000 names each day would require at least 17 hours of uninterrupted "calling" and healing. And yet this particular advertiser is the most sane and rational of the entire multitude of these curious people.

VALEDICTORY ADDRESS, 1904,

BY

F. J. HACKETT, M.D.,

University of Bishop's College, Montreal.

My first words shall be of welcome; welcome to the professional arena in which for the future your best efforts will be put forth in the struggle against the many ills, which afflict the human body. Speaking for the Faculty, and in a wider sense for the entire body of medical men, I extend to you the hand of fellowship, and henceforth, in virtue of the powers conferred by this convocation, you take your place as equals

amongst those who are seeking to help the sick and define and combat disease. The line of demarcation between pupil and teacher has been erased, and we stand now upon the common field of endeavour in the treatment of disease. These words of greeting should gain in cordiality, when coming from one, who, like yourselves, took his degrees in the convocation of the same body, which grants you yours to-day ; one, who has during the course of your studies contributed little, it is true, to help you in your ascent of the path leading to a knowledge of medicine. You have advanced step by step, and to-day stand on an eminence from which you can look backward and review the events, which have followed one upon another, leading you to the crowning event of this day; and forward, looking to the future, wherein you are to put to use the principles and rules of medical science and art, which you have acquired during your sojourn amongst us. I, therefore, also welcome you to the ranks of those, who are bound together by the ties of membership in the same University.

Students you have ceased to be in the technical sense of the word, students in the broader and equally true sense of the word you will, I hope and believe, continue to be to the end of your lives. Your experience in fact will be very different from that of the majority of your brethren, if after a few years in practice you do not feel that you have learned more of your profession since you became qualified, than you did before.

At present, no doubt, the feeling uppermost in your minds is one of thankfulness, that you have come to the end of what at one time seemed an interminable series of examinations. We are pleased that you have passed them all with honour, and that in the various tests to which you have been subjected you have given promise of being able to cure or relieve the sick and competent to apply the teachings of science to the mitigation and prevention of disease. On such broad lines have you been tested, and in this school such is the object of examinations which we keep in mind. A medical examination should not be used to try a man's mental agility and alertness, his power of rapid and correct expression, nor should success depend upon command of self and presence of mind amid difficulties. Many a good man would fail under such a test. It should be directed to appraising professional skill, only this and nothing more.

At the outset of your medical career, pardon me, if I tell you that the practice of the medical profession is not a life of ease or luxury. Be not deluded by those who would have you content with "glory" or any other philosophical abstraction. Little good is done by constantly

drawing a distinction between the medical and other professions; it is a false doctrine that would put our profession on the pinnacle of the human temple, with the lawyers, authors, artists and others below. In fact it has often been said that, the study of medicine is much nicer than the practice of it. The eager student, who, day by day gleans some new facts, when they have all the relish of novelty, tries to give to these facts their proper significance and importance, and following his teachers, his reading, his authors, has the pleasurable sensation of intellectual satisfaction, which his opening mind feels, as the truths and laws of science grandly evolve and become clear to him.

The eager and earnest practitioner, on the other hand, when he comes to apply his knowledge in his professional life has to assume an altogether different mental attitude. He no longer may follow his teachers, the sense of personal responsibility is upon him. You will sometimes feel when you have an anxious case on your hands, the overwhelming power of this sense of responsibility. You will then realize what it is to have in your hands, depending on your decision, the issues of life and death. You will find that you will not have one hour out of the twenty-four, which you can positively call your own, in the sense of being free from the chance of interruption by a professional call.

Only enthusiasm and love of your work can make these things endurable. If you have these, you will respond with pleasure and promptness to any call at any hour. You will have before you the prospect, that this new case may afford some unusual manifestation of disease, that in your treatment of it you will learn something new, that it may afford an occasion of carrying out some method of treatment in accord with the latest advances in therapeutics; or again, to some whose enthusiasm may carry them so far, should all efforts be of no avail, there will remain the opportunity of establishing with certainty its pathology.

Your work will be undertaken and accomplished in a spirit which will make the task light. You will communicate your enthusiasm to those about you; your earnestness will be noted by your patients or those interested in them, and do much to assure to them ease of mind, feeling that they are in good hands.

Reverses you will meet, they are not more frequent to medical men than to others, your enthusiasm will carry you past them, then you will have successes, and to the medical man whose soul is in his life's work they will bring especial satisfaction.

Looking into the future, I have in my mind's eye that one of you has attended a little girl, loved with intensity by a good mother, stricken with a serious and dangerous malady, one which has caused

her to lie for days on the brink of dissolution. To her friends the shadow of death seems to darken the scene, you do not notice these things, you are not cast down or depressed, rather are you stimulated to further effort. You notice with a keenness born of earnestness in your work, and devotion to your patient, all the symptoms of the case. During the days of your attendance she has ceased to be only a case; the little one has entered in your affections. You think not of loss of sleep nor of fatigue. By and bye the shadows lessen and things brighten, and one by one the various signs of health and well-being reappear. Where was pain, there is now comfort: where was restlessness, there is now rest; intelligence has returned, and dulness of expression and countenance have given way to a laugh and a smile of recognition.

By your unremitting care, and the interest which you aroused in those whose duty it was to work while you were away, you contributed much to save your patient from death. You have earned the lifelong gratitude of a child and its mother. Then there will come into your soul a sense of satisfaction and pleasure, which some time or other comes to all of us, a feeling which no fee, however large, could ever arouse, and you will know then that you are a member of a profession in which there are other compensations than those of money.

The practice of medicine has been described as one of the mute arts. By these, I would understand that its practitioners in all times have pursued their calling in a quiet and noiseless fashion, not seeking nor challenging the approval of the masses, rather seeking the good opinion of their fellows. Less brilliant, less tumultuous than some other professions, it has, however, been of every day usefulness. Fortunate the community that has among its citizens one or more physicians or surgeons, who by their energy and devotion to their practice give to their fellow men all the advantages which our present knowledge of the healing art has in store for them. A good Doctor of Medicine is one of the most precious assets of any community.

A work in which philanthropists may engage, it is one which the state should undertake, and this to its own advantage, because nothing is of more importance to any country, than that its citizens have healthy bodies and sound minds. Proper facilities for the training of such men should be furnished, either in institutions of its creation, or by granting from the public funds assistance to institutions in existence.

Passing from matters of a general nature to the subjects of more present interest, I would venture to say a few words on the tendency,

when you have entered upon active practice, of becoming absorbed in your routine work and neglecting the cultivation of the mind. None of us is strong enough to bear with impunity the strain of professional life without some kind of mental recreation; this is necessary in order to save us from narrowness of only a medical view, and that partial atrophy of the mental faculties that comes of disuse.

To some this divergence from the professional path may be that of incursions into some department of general literature; others may adopt some branch of the natural sciences as a relaxation and change in mental activity.

You should strive to so enrich your mind, that you will not only know how to do your work, but will also know how to enjoy your leisure; moreover, to such of you as may reach the time, when your working days are over, that you may be provided with an unceasing source of wholesome interest. Therefore, one should not neglect those outside studies which enlarge our sympathies and broaden our view of life and help us to get the best there is out of it.

Seek the acquaintance and companionship for your spare hours of the best men in the city or town in which you dwell. Contact with men of high purpose and character can easily become a means of education; it may serve to direct your taste, but that intimate development which is so much to be desired must be wrought out by each one for himself, and by no means so well as by reading the works and the lives of great men who have gone before us.

Read the history of medicine and ponder over the lives of those exalted types of humanity which in all ages have been found in its ranks. Look to them for inspiration, let them be to you as great warriors, statesmen, artists are to those who follow their respective callings. You will learn much from them and realize that knowledge, even medical knowledge, is not of any age, or clime; the labours of some of them will cause you to be lost in admiration and respect. A respectful frame of mind to those who have gone before and to your seniors is a pleasing quality in any young practitioner. One, who by overconfidence in self thinks he knows all about any subject, may very easily become a very dangerous man.

So order your reading as to become useful as well as learned citizens. In no way can you be of more service to your fellow beings than in having a good knowledge of hygiene and the laws of sanitation. Should your lot be cast in a small community or in a new growing town, you can do much for the general good, in promoting regulations having in view the prevention of disease; to you in a great measure

Some of you will live long enough to see the great white plague under control, and its ravages growing less and less. Join the movement and do your share.

Be loyal and true to the noble profession which you have entered, and by unimpeachable character and conduct build up and strengthen its prestige and reputation. Remember that the good you do is shared in by all of us, do not forget that, should you depart from professional rectitude, your brethren all suffer.

Remember that you have here to-day taken an oath. Study it well; it will be a source of strength to you, and an arm to ward off danger. In the battle of life, if anything I may happen to have said to-day should help you to fight manfully, and to win your way to honour and success, I shall be glad. A few words from our old medical friend, Oliver Wendell Holmes: "I have great confidence in young men, who believe in themselves. When a resolute young fellow steps up to the great bully, the World, and takes him boldly by the beard, he is often surprised to find it come off in his hand, and that it was only tied on to scare away timid adventurers." And so, with these few words of encouragement I bid you all God-speed.

will be the task of forming public opinion and preparing it to accept the various projects, which it may be necessary to carry out for the public health.

Especially should you give your support to the great movement which is going on to-day in all civilized countries against that great foe of humanity, tuberculosis. In the cities support the leagues that are there already formed. Wherever you may be, by word of mouth, and by your pen, lose no occasion to impress on the mind of the masses the nature of the danger they are in and that it can be warded off.

A CASE OF PARINAUD'S CONJUNCTIVITIS.

BY

J. W. STIRLING, M.B.,

Lecturer on Ophthalmology, McGill University,

AND

JOHN McCRAE, M.D.,

Lecturer in Pathology, McGill University.

Parinaud's conjunctivitis, or lymphoma of the conjunctiva as the German authorities call it, is a disease of which hardly any mention is made in the textbooks. It is characterised by the appearance of granulations and large follicular masses on the palpebral conjunctiva, which rapidly increase in size, and also by the enlargement of the pre-auricular,

infra-maxillary and cervical gland. The enlargement occurs at the onset of the disease, or not long after. These glands may suppurate or may resolve. There is also a coincident rise in temperature each evening, which in our case, on one occasion, reached 103, but for the most of the time hovered about 100.3, the morning temperature being one to one and a half degrees lower.

As a rule, only one eye is affected. The course of the disease is not rapid, and it tends gradually to complete resolution.

This disease has to be diagnosed from trachoma, and from tuberculosis of the conjunctiva. From the former it is distinguished by the tendency to complete recovery, by the glandular enlargement and elevated temperature, and by the huge size of the granulations; from the latter, by its complete curability, the entire absence of any ulceration, as well as the lack of bacteriological proof.

Goldzieher states that the swellings in the cheek and neck are not purely glandular enlargements, but new growths of lymphoid tissue.

Dr. McCrae's accompanying pathological report is hence of much interest, the pathology of the disease being so obscure, our only regret being the lack of an intraocular inoculation in an animal.

The patient first came under my notice on the 11th of November, 1903, at which time he had been suffering from an inflammation of the right eye accompanied with slight ptosis for ten days. For this he had been employing a collyrium of boracic acid and cold compresses, but the symptoms becoming more severe he consulted me. The condition, which I found was as follows; marked swelling of both lids of the right eye with ptosis, lachrymation and photophobia; on everting the lids the palpebral conjunctiva appeared much thickened and red; dotted over it, especially on the inner third, were many papillary granulations, which on the retro-tarsal fold were of large size; these closely resembled the granulations of acute trachoma; the ocular conjunctiva was also injected and irritable, but not chemotic; no false membrane was present, and vision was unaffected.

The diagnosis of acute trachoma was made provisionally, and a culture was made from the conjunctival secretion, which secretion was small in amount, and mucopurulent in character.

For treatment I prescribed a collyrium of boracic acid and borax, an ointment of loretin, and the application of a 2 per cent. aqueous solution of nitrate of silver, once daily to the conjunctiva.

In forty-eight hours the granulations had greatly increased in size, and had pretty nearly covered the entire inner surface of the eyelids, the lids were much thickened and the ptosis very marked. Another culture was made from the conjunctival secretion, and the same germ

found as in the first culture. These cultures, showed bacilli of irregular form, which were very suggestive of the Klebs-Loeffler bacillus. A mouse was inoculated from the culture and died in two days. A false membrane was found which contained many bacilli, similar to those above mentioned. A shield was applied over the sound eye and a 15 per cent. solution of argyrol was swabbed on the conjunctiva four times daily. Dr. Buller saw the patient at this time with me and agreed as to the provisional diagnosis of acute trachoma.

Some small ulcerated patches appeared on the pharynx, but cultures, which were taken from them, proved negative, as did also a culture taken from the nose.

The ocular conjunctiva became greatly chemosed, and the pre-auricular and cervical glands began to enlarge; this was ten days after I first saw the patient. The temperature also began to rise each evening to 99.2, and finally reached 101, there being a morning remission. The complex of symptoms now caused a revision of the diagnosis, and trachoma was definitely excluded, the symptoms being clearly those of Parinaud's conjunctivitis.

Considering the symptoms, the bacteriological findings, and the apparent failure of local treatment to stay the course of the disease, I decided to try the injection of Rioux' anti-diphtheritic serum. Twenty-five hundred units were administered, followed at twenty-four hour intervals by a second and a third. The main result noted was that the granulations became more succulent and soft, but the glands continued to enlarge, and deep fluctuation was made out. Dr. Armstrong being called in, advised excision which was accordingly done by him. In the pre-auricular sub-maxillary, and cervical glands he found necrotic tissue, with a very small amount of pus. Dr. McCrae's report gives the pathological condition. A most remarkable amelioration of the ocular symptoms rapidly followed the operation. Within twelve days only a few of the larger cockscomb-granulations on the retrotarsal fold persisted, and these did not finally disappear until two months later.

Of much importance is the pathological report by Dr. McCrae, which I append. It is noteworthy, that, although cultures were taken from the nose and throat, no trace was found of a germ resembling that observed in the eye.

The bacteriological reports upon this case are as follows: November 12th,—Conjunctiva of the right eye; cultures, pure, of a weak growth of bacillus, slender, mostly 3 μ by .75 μ in size; Gram's method, positive, showing club-shaped and dotted forms, as well as straight and slightly curved bacilli. This was thought to be Klebs-Loeffler bacillus.

November 13th.—Pure culture, similar to the above was again ob-

tained. Its cultural characteristics were tested with the following result: gelatin, good growth, no liquefaction: broth, turbidity, no pellicle; in litmus milk slight acid reaction was observed; in sugar bouillons, no gas production occurred; growth on potato was very slight, the streak being rather faint, greyish-white, moist. The granules could not be stained, though tried repeatedly by Nissl's method, this being the only observable difference between the organisms and ture Klebs-Loeffler bacilli; it was observed, also, that some of the individual bacilli were very large, and club-shaped forms were very readily demonstrable, even more so than the generally seen clubs of the diphtheria bacillus.

Inoculations into the subcutaneous tissue of the back of a brown mouse resulted in the death of the animal in 36 hours. The skin wound was closed by caked serum, no membrane being apparent to the eye. On the subcutaneous layer of muscle, however, a membrane was apparent, and on section, this was seen to contain great numbers of the bacilli described above, which lay upon the surface and in the membrane, but were not found in the deeper tissues. The organism could not be obtained by smear or culture from any other part or organ of the body.

A guinea pig, inoculated in the skin of the back, was dull and did not feed for 24 hours, but showed no membrane at the site of inoculation; the wound healed properly, and after 48 hours the animal was perfectly well.

November 17th,—Right eye; pure culture as before. Throat; cultures showed many streptococci, some staphylococci, no forms resembling the Klebs-Loeffler bacilli. Nose; culture from the right side of the nose showed staphylococcus aureus, no bacilli resembling diphtheria.

November 25th,—Conjunctiva of the right eye; smears negative. Culture gave pure growth of the same bacillus as before. Left eye; smears showed no organisms, cultures gave staphylococcus in pure culture, no bacilli.

December 2nd,—Conjunctiva of right eye; pure culture of same organism as before, only growing feebly and scantily.

December 7th,—Cultures from right parotid gland; Loeffler's blood serum. No. 1 gave no growth of any kind. No. 2, bacilli, 4-5 μ by 1 μ, not at all resembling the organisms in question, staining well, Gram's method positive. No. 3, scanty growth similar to No. 2.

December 7th.—Gland tissues from parotid region; mass of tissue, measuring roughly 4 x 3 x 2 cm.; on section, seen to be partly composed of parotid gland, partly lymphoid tissue, dotted throughout by yellow, purulent areas, (abscesses); smears from these areas show pus cells, but no organisms, and sections stained by Gram's method, show a few

scattered straight bacilli, in different parts, which do not at all resemble Klebs-Loeffler bacilli, and are in very small numbers; they cannot be made out definitely in the edges of the abscesses.

December 7th.—Conunctiva of right eye; pure culture, of feeble growth on blood serum, of same organism as before; the individuals are now mostly smaller in size, and in addition to the straight, curved, and dotted forms, are now to be seen a few diplo-bacillar forms, of which the outer ends are slightly narrower than the bases.

December 8th,—Conjunctiva of right eye; smears negative. Guinea pig inoculated with culture from blood serum was evidently ill for some hours, but after 42 hours was observed to be in normal health; slight scabbing, without membrane at wound. Smears made upon the unbroken conjunctiva of rabbits were without effect upon the animal, and the cultures from the conjunctiva 24 hours later, failed to show any organisms.

Summary: pure cultures of bacillus resembling Klebs-Loeffler bacillus found during 25 days of active treatment of the eye, this bacillus was not found in the other eye, in the nose or throat; when the glands suppurated, it was not found in the gland-tissues, nor in the pus, though, the organism causing the suppuration was not determined.

In view of the cultural characteristics and morphology, with the single exception of the granules being not determined, this is evidently the Klebs-Loeffler bacillus, and yet when one considers that it is fatal to guinea pigs, it cannot be the generally recognized type of that organism. It fulfils the conditions, which determine the recognition of that form of so-called pseudo-diphtheria bacillus, generally known as bacillus xerosis, but this bacillus is recognized as innocuous in the eye, where it is frequently found. The bacillus, whatever its exact nature, was probably excitant in the inflammation of the eye, because it persisted in pure cultures through 25 days, despite active local antiseptics.

Without entering upon the vexed question of the relationship or identity of B. xerosis and B. diphtheriæ, we may state, that we are dealing with either a virulent form of B. xerosis or a less toxic than ordinary bacillus diphtheriæ. In either event the presence, persistence, and evidently causal relationship of the clinical condition is an interesting fact.

CLINICAL REPORTS FROM THE WARDS OF THE ROYAL VICTORIA HOSPITAL.

BY

J. M. McCULLOCH, M.D., Montreal, Resident Physician.

CASE I. Acute Lymphatic Leukæmia—Illness of only three months duration—Leucocytes, less than 15,000 until last ten days before death—Early retinal changes—Absence of hydrochloric acid in gastric contents.

Abstract.—The patient, W. P., aged 30, was sent to the Royal Victoria Hospital by Dr. Geo. D. Robins of Windsor Mills, P.Q., complaining of weakness, dyspnœa, gastric disturbances and nervousness. There was nothing important in his personal or family history.

His present illness, the only serious one he ever had, began early in January with sensitiveness to cold, persistent drowsiness, weakness, shortness of breath and gastric disturbances. The gastric complaints consisted chiefly of flatulence and acid eructations, with slight tenderness on pressure. The weakness became a prominent symptom only one month later, though he was able to carry on light work until within six weeks of the time of his death. The symptoms were at first so prominent that primary gastric disease was suspected, though, later on, the increasing weakness and progressive pallor suggested to his physician a diagnosis of leukæmia which was confirmed by his examination of a fresh blood specimen.

On his entrance into the Hospital the only signs indicative of disease were a very marked pallor, considerable weakness, a markedly enlarged spleen and the distinctly palpable *epitrochlear* glands; the other glands were not enlarged on admission. In addition to this there was some dilatation of the heart.

The examination of the blood revealed a leucocytosis of twelve to fifteen thousand according to an average of numerous counts. The red blood cells numbered 1,400,000 and the hæmoglobin was 28 per cent. On account of the low white blood count the diagnosis of leukæmia was for a time doubtful.

The stomach was thoroughly examined and it was found that there was some slight motor insufficiency and an absence of hydrochloric acid. There was no evidence of lactic acid and the total acidity was 11 per cent.

A day or two later, when the blood count still remained the same, examination of stained specimens showed leucocytosis to be almost entirely mononuclear in character, so much so that the diagnosis of leukæmia was emphasized. There was no rise in the blood count until five days previous to his death. Examination then revealed the red blood cells to be 1,710,000, white blood cells 37,600 and the hæmoglobin 19 per cent.

A differential count at this time showed the polymorphonuclear cells to be only 15 per cent., large mononuclears 17 per cent., small mononuclears 67 per cent., eosinophiles and myelocytes .2. Among the 2,500 white cells counted, there were only 16 nucleated red blood cells, chiefly normoblists, and some distinct megaloblasts were also present.

Examination of the eye grounds had been made on repeated occasions and neuroretinitis, such as is characteristic of grave anæmia conditions, was found.

Enlargement of the other glands, though slight, was distinct during the next three days, the patient becoming the while very much weaker and showing evidence of heart failure. There was gallop rhythm, progressive weakness, a terminal infection of the submaxillary glands and death on April 22nd, a little more than three months after the early symptoms.

The disease throughout was accompanied by a markedly intermittent temperature, the oscillations varying from the subnormal to 103.8°.

Post-mortem examination was not obtained.

CASE II. Primary sarcoma of the stomach with secondary plaque-like metastases throughout the intestines—Stenosis of ileum without symptoms—Extensive secondary disease of the kidneys with no clinical symptoms—Extensive secondary disease of the pancreas with no evidence in the urine or fæces—Persistent absence of both hydrochloric and lactic acids.

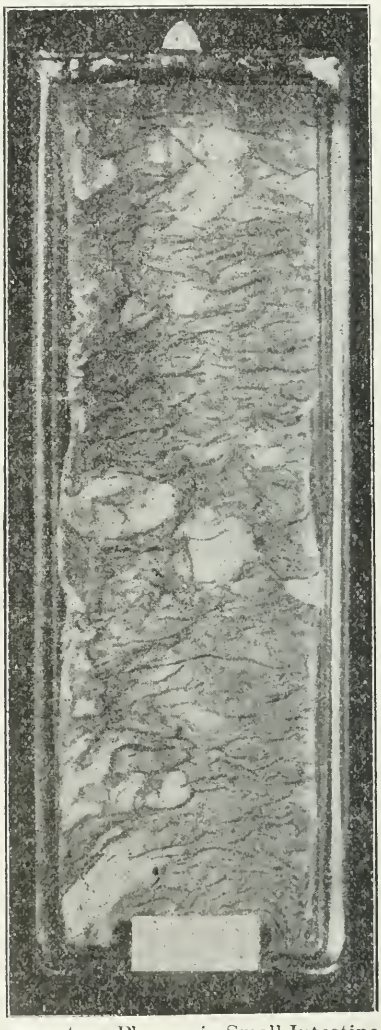
J. O., laborer, aged 53, entered the Royal Victoria Hospital under Dr. Martin's care on November 4th, 1903, complaining of pain in the stomach, weakness and loss of flesh for the past 14 months. He had had malaria 21 years previously and had suffered from eczema for the past 17 years. There was a marked alcoholic history but no definite evidence of specific disease. The family history was unimportant.

His present illness, which began 14 months previous to admission, was evidenced by pain after eating, for several hours, frequent vomiting of coffee-ground material and the presence of melæna. There was progressive loss of flesh and weakness, compelling him at the end of nine months to give up work entirely. His appetite, however, had remained very good up to a short time previous to his admission. Severe pain had been present for only about four months and was at times extreme.

The patient, on admission, was much emaciated and very anæmic. The finger nails were clubbed. There was no glandular enlargement. In the lungs there was emphysema and the heart showed some slight enlargement with an apical transmitted systolic murmur. The blood count showed 4,000,000 red cells and 6,400 white.

The digestive system: The patient had a good appetite until two

weeks previous to admission. His food, however, induced pain and he had frequent attacks of vomiting. Jaundice was not at any time present. Examination of the abdomen showed a marked enlargement of the liver, which could be felt extending as a ledge moving with each respiration, and extending to 8 cm. below the costal margin in



Sarcomatous Plaques in Small Intestines.

the right nipple line, and 17 cm. below, in the right sternal line; it was firm and smooth, the border being distinct, perhaps somewhat sharp; there was tenderness over the whole surface. The relative liver dulness began at the right nipple. Examination of the stomach revealed no marked dilatation, and repeated examination was made of the contents

after preliminary lavage. The results of a test meal showed no retention, no free hydrochloric, no lactic acid and the total acidity varied from 10-35 per cent. The urine contained at times, a slight trace of albumin and a few hyaline casts but nothing else of importance.

The nervous system was normal.

Progressive weakness, emaciation and suffering ensued up to the time of the patient's death, on Jan. 25th, 1904. There was marantic oedema, some hydrothorax and ascites, but very little evidence of great increase in the size of the tumor mass up to the time of death.

The clinical diagnosis of carcinoma of the stomach with secondary involvement of the liver was made, though with some reservation, inasmuch as the symptoms never quite coincided with the typical features of that disease. There was no dilatation of the stomach evident, no retention of food, and at no time was lactic acid found in the contents after a test meal.

The autopsy, performed by Dr. McCrae, revealed an extensive, plaque-like sarcoma of the stomach, submucous in character and with multiple small ulcers. Similar multiple submucous sarcomata were found in the small intestines (vide Photograph) with *stenosis of the ileum*, through which a goose quill alone could have been admitted. *At no time, however, did this give any symptoms.*

The *pancreas was extensively diseased* with breaking down and necrotic abscess formation, and yet, *at no time was sugar in the urine*, although repeatedly looked for.

Both *kidneys were extensively diseased* throughout with secondary growths, and *yet at no time was there more than a trace of albumin* and a few hyaline casts found.

Microscopical examination showed the neoplasm to be of the small round celled type of sarcoma, and streptococci were found in abundance, evidently as a terminal infection.

REMARKS: Cases of sarcoma are now common enough; Howard in 1902 collected a series of 61 undoubted cases and Dr. McCrae adds yet another to the series. *Involvement of the intestinal tract appears to be recorded, however, in only one case* of lympho-sarcoma of this nature. Dock in 1900, however, recorded a remarkable case of removal of one-third of the stomach as well as part of the duodenum for a similar condition.

So far as the differential diagnosis of sarcoma of the stomach is concerned, the consensus of opinion would indicate that there is no reliable means of distinguishing between sarcoma and carcinoma when affecting the stomach, unless it should chance that portions of the affected tissues are found in the contents and subjected to microscopical examination.

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EDITED BY

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G. GORDON CAMPBELL, WILLIAM GARDNER
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PROFESSOR POZZI'S VISIT.

The visit of Prof. Pozzi to Montreal is deserving of more extended notice than was possible to give in connexion with the Congress of French-speaking Physicians, which was held late in June. The importance of the man in the scientific and political world, the official character of his visit, representing, as he did, the Academy of Medicine and the French Republic, lend significance to the Congress itself.

The first meeting of this Congress was held two years ago in Quebec; the second was held in Montreal, and arrangements are already in progress for the third meeting, which will be held two years hence. Our French-Canadian confreres are no longer content to follow old methods; they are realizing more fully the importance of keeping in touch with the great scientific movement, and of gathering information abroad as well as at home.

Nothing is more natural than that they should turn to France, the country to which they are bound by the strong ties of sentiment. It

is not necessary to seek for an explanation of this natural tendency in the imperfection of the English nature, nor to rail at ourselves, because we are not sympathetic to things which we do not understand, because we are self-complacent and indifferent to much that lies without our own circle. We lament the possession of these qualities, and are trying to eradicate them, so that in time our brethren may forgive and love us.

In the meantime, the French-Canadian physicians are going to France, and the French Republic and the French Academy sent Prof. Pozzi to bid them a fuller welcome to the large opportunity which lies in Paris. We must confess that we do not share the apprehensions of Archbishop Bruchesi, as to the dangers which are in store for his "chers enfants," in that great city. It was but natural His Grace should give expression to those fears, at the reception which was held in the halls of his own University. The invitation to come under the influence of Paris was conveyed by Prof. Pozzi, who is not a Catholic in religion, and is distinctly *rouge* in his politics, as we say in Quebec. So far as it appears in his writings, Prof. Pozzi makes a distinction between organized religion and science, as being better for science and for religion also. At the reception before-mentioned, the newly elected Bishop of Joliet gave the assurance that the Church had at no time been hostile to the spirit of science, and we believe that the fears of the Archbishop are groundless. Even if the young charges of the Archbishop should become imbued with the spirit of Prof. Pozzi, no great harm would be done to religion or to themselves.

The personality of Prof. Pozzi is a striking one, and interest was at once aroused by his keen, clear-cut, intellectual face; his enthusiasm and energy were expressed in every line and movement of his figure, in every look and gesture. When he spoke, the charm was increased by the wonderful finish of phrase, sentence and theme.

During his brief visit, Dr. Pozzi operated at both the Notre Dame and Royal Victoria Hospitals; on each occasion he did an abdominal hysterectomy for fibroid tumour of the uterus. It is not, however, on his surgical work, done under strange environments, especially trying to such an intensely nervous nature, that we should base our judgment of the man, though rapidity and skill were not lacking. Rather were we attracted by the "teacher," so lightly, yet clearly did he bring out the salient points of his procedure; the enucleation of the fibroid preparatory to the removal of the uterus; the quick demonstration of the operative field, showing the accurate coaptation of the peritoneum; the insertion of the two silver wire sutures as a support against abdominal straining.

Again, at the meeting of the gynæcological section, it was a treat to

listen to his paper. The subject chosen was Sterility, due to arrest of development, characterized as a rule by dysmenorrhœa, anteflexion and the conical cervix and stenosed os. Dr. Pozzi condemned dilatation as unsatisfactory and futile; mere incision of the lips gave rise to cicatricial tissue and frequently an ensuing endocervicitis, which defeated the object of the operation. His own plan was to incise the lips, cut out wedge-shaped masses and then bring the edges together in such a way as to cover the raw surfaces. The immediate result was a cervix which at first appeared widely gaping, but soon contracted to normal proportions; the ultimate results in regard to fecundity had been most gratifying.

THE REGISTRATION OF BIRTHS.

The Medical Officer of Health for Montreal, has issued to the profession a copy of By-Law No. 315, which was adopted on the 20th of April, 1904. Section I. is as follows:—It shall be the duty of every qualified medical practitioner or midwife, attending at, or, in their absence, the parent or parents or any other person present at the birth of any child born within the limits of the City of Montreal, to sign and give a written report, within eight days after such birth, to the Medical Health Officer of the City of Montreal, stating, as far as possible, the particulars required in the following form." Section III. specifies the penalties attached to a violation or contravention of the by-law, which may amount to a fine of forty dollars or imprisonment for a period of two months.

There is no question as to the advisability of providing some accurate system for the registration of births; but we would like some assurance that the Health Committee had taken into account all the difficulties associated with so radical a measure. They may not be aware that a similar measure was enacted in St. John, and that the prosecutions were withdrawn, on the ground that the law was *ultra vires* of municipal authority.

Under sub-section 51 of section 300 of the city charter, it is enacted, that the city council shall have authority "to compel the reporting and recording of all births and deaths within the city." Nothing is said as to the body upon which this burden shall fall, and a by-law, even if within the definite powers of municipal incorporations, may be set aside, if it can be shown to be unreasonable, oppressive or manifestly unfair.

We do not say this by-law is unreasonable, oppressive or unfair, but there will surely be some who will consider it so. The matter is sure to come to the test, unless the Health Committee is content to allow

this enactment to fall into desuetude, along with many other of its ordinances, good and bad.

On a previous occasion we gave assurances, that there would be no factious opposition on the part of the profession to a well considered measure for the registration of births. In common with all good citizens we desire to make government easy and not difficult. We even went so far as to tender to the Health Committee such wisdom as is possessed by the various medical societies. To pay a fine of forty dollars, or even to endure a two months' term of imprisonment would be a serious inconvenience to most medical men. If such a contingency should occur, the Health Committee must not be surprised, if they discover a lack of academical calmness in the discussion.

CANCER STATISTICS IN MONTREAL.

The Committee of the Cancer Research Fund of Great Britain, during its first year of existence, has devoted itself to the object of attaining, first of all, a careful series of statistics as to race, age, sex, etc., of a large number, at least ten thousand, cases of cancer, in which a microscopical examination is recorded. In pursuance of this object the pathological records of the Montreal General and the Royal Victoria Hospitals have been used, and the series based upon autopsy findings has been made. There is now available, at the two hospitals, a record of autopsies numbering 3,275. Of this number, malignant new growth was found in 275 cases, a ratio of incidence of one in every 11.9 autopsies. If we compare this with the figures at hand from Guy's Hospital, London, we find there an incidence of one case in every eight autopsies; at Hamburg for a period of years, the ratio is one in 12.

Of the 275 Montreal cases, 56 per cent. are in males; this preponderance of new growth in males is necessarily off-set by some circumstances, chief of which is the fact that carcinoma of the female breast, while very frequent, is accessible and, therefore, operable. Of these 275 cases, 212 were of carcinoma and 63 of sarcoma. Since the Research Fund Committee has judged it necessary to rely only upon those cases in which a microscopical examination is recorded, the 275 cases are reduced to 171, although in the remaining 104 there is little or no doubt of the accuracy of the diagnosis.

In the carcinoma cases, the frequency of occurrence in the alimentary canal is striking; 60 per cent. of all these cases are in that situation, contrasted with 35 per cent. in the London series, but agreeing closely with the figure of 57 per cent. yielded by the Hamburg reports. Of all the cancers occurring below the age of 35, 63 per cent. were in the alimentary tract; of all the cancers of the alimentary tract, 62 per cent.

occurred in the stomach; of stomach cancers the earliest occurrence was between the 21st and 25th years, and the latest between the 81st and 85th years; 42 per cent. of them occurred between the 46th and 60th years; each hemi-decade between 46 and 65 showed about the same frequency; 1.9 per cent. of the carcinoma cases occurred before the 25th year, 6 per cent. between the 25th and 35th, and 6 per cent. between the 35th and 40th. Of carcinoma in the male, 40 per cent. were situated in the stomach; in the female 32 per cent. were in the stomach, 16 per cent. in the breast, 13 per cent. in the uterus. Of the sarcomata, 6 per cent. occurred in the first decade of life, a figure which is low because neither of the hospitals has a large number of child patients; only 11 per cent. occurred before the age of 25, and 30 per cent. of the sarcomata occurred between the 46th and 60th years.

PATENT MEDICINES.

From time to time the profession has been enlightened upon the subject of the impurity and adulteration of the drugs, which we habitually employ. The Inland Revenue Department, in its regular bulletins has shown, to take a few instances, that out of 15 samples of tincture of opium collected at random, only four were genuine; half the samples of citrate of iron and quinine were adulterated. Of 23 samples of tincture of gentian, nine were adulterated; of 11 samples of tincture of cardamons five were adulterated; of camphor two out of six; of myrrh five out of 17; of rhubarb 14 out of 21; of calumba one-third; of ginger four out of seven; of squills four out of six; of jalap one-fourth the samples; of buchu every one. Carrying the research further, into spirits of nitrous ether, and dilute hydrocyanic acid, the official analyst found the same results. Only one sample of nitrous ether out of nine was found correct; some had no nitrous ether and several others were practically useless.

Mr. McGill, the chief chemist, next turned his attention to the amount of alcohol, which is contained in the various patent medicines so shamelessly advertised, and he found that a percentage of thirty, forty, and even fifty was not uncommon. Of 91 separate tonics and bitters recently analysed by the Massachusetts State Board of Health, seven contained below 10 per cent. of alcohol, 54 contained an average of 22.5 per cent., and 27 contained over 30 per cent. The editor of a well known journal, published in the United States, has had an independent investigation made of the more common nostrums, and he declares, to take a few samples, that Lydia Pinkham's Vegetable Compound contains 20.6 per cent. of alcohol, Paine's Celery Compound

21, Ayer's Sarsaparilla 26.2, Hood's Sarsaparilla 18.8, Vinol 28.5, Hostetter's Stomach Bitters 44.3, Warner's Safe Tonic Bitters 35.7. It is only fair to add, that this editor has a good-sized law-suit upon his hands as a result of these disclosures, but there is a long distance between taking a law-suit and collecting damages.

At the last meeting of the Ontario Medical Council, the indulgence in patent medicines was one of the chief matters considered. The report of the special committee appointed to consider the best methods of dealing with injuries resulting from the employment of these preparations declared that, in view of the large and rapidly increasing sale, and the unwarranted statements contained in advertisements of them, the Dominion Government should be memorialized to pass a law making it compulsory to have displayed on every bottle a complete and correct formula of ingredients, and that it should be made a misdemeanor to mis-state in any advertisement that an article was a cure for any specific ailment.

This is a matter which does not concern the profession, save in so far as it has the public interest at heart. The dissemination of false statements increases the demand for true information, and the employment of these poisons opens a large field for scientific treatment. But the more foolish amongst the public should be protected against their own folly, and against the heartlessness of the nostrum vendors, who are willing to profit by their credulity.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

There were eighteen regular meetings of this Society during the past session, at which fourteen papers were read, and twenty-one cases reported. Many living cases were brought before the notice of those present, and the members had the pleasure of attending three lantern demonstrations including one on Radium. The average attendance was fifty-four members, an average number far in excess of that for many years past, possibly the highest average attendance in the history of the Society. The programmes had, in most cases, been arranged months before the stated meeting, with the object of assuring the production of carefully prepared papers. Amongst other contributors were Drs. Osler; Goldthwaite, of Boston; Cushing, of Baltimore; and Primrose, of Toronto; also Prof. Rutherford, of the Faculty of Applied Science of McGill University.

Besides being a session of unusual activity for the Society at large, it has been one, in which the Council has been called upon to consider and adjudge many questions of great interest to the profession. Amongst

other subjects may be mentioned, the proposed change of tariff by the Canadian Nurses' Association, the medical inspection of schools, and the suggestion that the hospitals and dispensaries shall be asked to consider the regulation of their dispensation of charity amongst those able to pay for medical attendance. This question alone is one of sufficient importance to have demanded much time and thought from the members of the Council.

It is worthy of note that a bill has been introduced in the British Parliament, providing that for the purpose of the British medical act, any portion of the British possessions which is under both a federal and a local legislature may be declared to be a separate British possession. The passage of such a bill would permit the British medical authorities to enter upon negotiations with the council of any Province in Canada to arrange for reciprocal registration without waiting for Dominion registration..

CANADIAN MEDICAL ASSOCIATION.

The most recent information is that the meeting of the Canadian Medical Association, to be held in Vancouver, August 23rd, 24th, 25th and 26th, will excel in interest any of the thirty-six meetings which have preceded it. The general secretary has already the names of over two hundred members from the East who will attend, and the West promises as many more.

The members of the profession in British Columbia, have laid the matter to heart, and intend making this first meeting in their province one to be remembered. An excellent programme of papers, tempting transportation rates, liberal arrangements for side trips and detours, promise of a cordial welcome, all give assurance of success. The return railway rate from Montreal is sixty-eight dollars, the sleeping-car rate thirty-five dollars, and dining arrangements about twenty-five dollars for the complete journey. Railway certificates and all information may be obtained from the general secretary, 129 John Street, Toronto, or from the Montreal secretaries, who may be addressed in care of this JOURNAL.

The provisional list of papers is as follows:—

President's address—Simon J. Tunstall, Vancouver.

Address in Surgery—Mr. Mayo Robson, England.

Address in Medicine—

Address in Gynæcology—Dr. C. E. Dudley, Chicago.

Paper, title to be announced—Dr. A. McPhedran, Toronto.

Paper, title to be announced—Dr. J. H. Elliott, Gravenhurst,

Surgical Treatment of Trachoma—Dr. G. Stirling Ryerson, Toronto.

Paper, title to be announced—Dr. A. Armstrong, Arnprior.

Paper, title to be announced—Dr. A. E. Garrow, Montreal.

The Operative Treatment of Spina Bifida—Dr. E. R. Secord, Brantford.

The Business Aspect of the Medical Profession—Dr. James E. Hanna, Ottawa.

Paper, title to be announced—Dr. D. J. Gibb Wishart, Toronto.

Paper, title to be announced—Dr. J. W. Stirling, Montreal.

Paper, title to be announced—Dr. B. E. McKenzie, Toronto.

Hernia of Bladder Complicating Inguinal Hernia—Dr. Francis J. Shepherd, Montreal.

Gastric Ulcer and its Treatment—Dr. J. B. McConnell, Montreal.

La Syphilis Canadienne et Différents Facteurs et Gravite—Dr. D. E. LeCavelier, Montreal.

Case Reports—Dr. Robert H. Craig, Montreal.

Paper, title to be announced—Dr. James S. Edwards, Grand Rapids.

Paper, title to be announced—Dr. Henry Howitt, Guelph.

Chronic Cystitis—Dr. J. O. Camirand, Sherbrooke.

Iniencephaly, with a Report of Three Cases—Dr. Maud E. Abbott, and Dr. F. A. L. Lockhart, Montreal.

Actinomycosis—Dr. James Bell, Montreal.

Paper, title to be announced—Dr. Ingersoll Olmsted, Hamilton.

Prostatectomy Under Local Anæsthesia—Dr. H. H. Sinclair, Walkerton.

High Frequency Currents in Functional Disease, more particularly Functional Neuroses—Dr. S. F. Wilson, Montreal.

Therapeutic Hints from Bacteriology—Dr. G. R. Cruickshank, Windsor.

Paper, title to be announced—Dr. C. H. Mayo, Rochester, Minn.

In addition there will be a number of papers from Western men, whose names have not yet been received.

Reviews and Notices of Books.

Tuberculosis and Acute General Miliary Tuberculosis. By Prof. Dr. G. Cornet, edited, with additions by Walter B. James, M.D. Authorized translation from the German, under the editorial supervision of Alfred Stengel, M.D. W. B. Saunders & Co., Philad., New York and London. J. A. Carveth & Co., Toronto.

The present volume fully maintains the high standard of its predecessors in Nothnagel's system; Professor Cornet handles his subject

with a master's hand, and in a volume of 800 pages leaves little unsaid on the subject of tuberculosis. Sixty pages are devoted to the bacillus, including an excellent chapter on its chemistry by E. R. Baldwin, of Saranac Lake. A short discussion of the relationship of human to bovine tuberculosis has been added by the editor, Koch's celebrated paper on this subject having appeared since the publication of the original work. Throughout this chapter, the author states clearly the views generally held on the infectivity of tuberculosis. Ordinary expired air is not a factor in conveying the disease, as it requires cough to dislodge the bacilli; infected food plays a relatively infrequent part, whilst dried sputum, especially indoors, forms the real danger.

The modes of invasion are treated at considerable length, and much space is devoted to the incidence and infection of the various organs and tissues.

The danger of infection in the open air is regarded as practically nil, even the street sweepers show a remarkable immunity, and the great majority of cases are due to infection in house or factory. A very interesting chart is introduced, showing the influence of age on the incidence of the disease. Taking the number of individuals living at any age, the frequency of the disease increases up to the age of 70; over this age it decreases, owing to the diminishing proportion of elderly people engaged in active work in factories or other places in which exposure is apt to take place.

The question of heredity is treated rather shortly. The author holds, that statistics are not yet available to settle this time-honoured doctrine, and he evidently leans strongly to family infection rather than heredity tendencies.

The remarks on climatic treatment, are judicious and complete. Although, applying chiefly to Germany, they have been supplemented by a list of American resorts.

The translator's work has been remarkably well done, and shows little trace of German idiom. The work must be regarded as a standard and authoritative expression of the present status of tuberculosis, and for reference will prove of the greatest interest and value to all who are interested in the subject. The clear type and excellent paper render the perusal of the work a pleasant task.

Railway and Other Accidents. With relation to injury and disease of the nervous system. A book for court use, by Allan McLane Hamilton, M.D. New York, William Wood and Company; Toronto, Chandler and Massey.

This book deals with an occult subject, the relation of accidents to

injury and disease of the nervous system. It is hard enough to estimate that relation in plain uncomplicated cases; but when to the natural difficulties are added conscious or unconscious fraud, the desire for gain on the part of the patient, and the desire to avoid responsibility on the part of a corporation, with expert medical testimony and legal investigation, prevarication, evasion and subterfuge interjected into the discussion, it is easy to guess how fallacious is experience and how difficult judgment. For the past thirty years, Mr. Erichsen's work upon Spinal Concussion has been a vade mecum to the plaintiff's attorney. This work by Dr. Hamilton will, we imagine, be of equal usefulness to the corporation lawyer, and to the medical witness whose desire is to to expose fraud.

There is not much in the book about railway accidents; but there is a great deal about the nervous system, and much of that is already contained in the text-books.

Modern Ophthalmology. By James Moores Ball, M.D., Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons. With 417 illustrations in the text and numerous figures on 21 coloured plates, nearly all original. 820 pages, extra large Royal Octavo. Price, extra cloth, $7.00, net; half-morocco, $8.50, net. F. A. Davis Company, publishers, 1914-16 Cherry Street, Philadelphia.

This is a complete treatise on Ophthalmology, appearing as a large and handsome volume of over 800 pages, copiously illustrated. The author has evidently aimed at producing a standard work in which all recent progress is recorded in this ever progressive special branch of Medicine and Surgery, and he is to be congratulated on the success of his undertaking. The work includes chapters on the development of the eye, its anatomy and physiology; also many new illustrations, with the descriptive text, and a long chapter of some seventy pages is devoted to examination of the eye. As a new feature this contains an illustrated description of McKenzie Davidson's method of localizing foreign bodies in the eye. Short chapters on preparation of the eye for operation and on the care of the eyes in early life, are excellent features of the book, and the final one, on pathological and microscopical examination of specimens, will be hailed with satisfaction by every ophthalmic surgeon who takes a scientific interest in advancing the knowledge of his subject. The main body of the work, dealing with diseases and injuries of the eye, is clearly and yet concisely presented, with sufficient fulness to satisfy all ordinary requirements, and in the matter of treatment the writer has shown himself to be particularly clear and explicit, a fact

which will be appreciated by all who have not had the benefit of many years' experience in special work.

In order that there may be no unnecessary repetition of things belonging in common with other departments of medicine, the writer has often given only the points properly belonging to the study of Ophthalmology, referring the reader to works on general medicine and surgery for details in matters of speculative value, as well as in all that concerns treatment. An instance of this practical method of shortening special articles without sacrificing completeness is to be noted in the article on Graves' disease, and there are many others, in which the author is merely indicating the road to be travelled rather than acting as constant companion.

There are, of course, some things omitted which other writers might deem worthy of mention, but it is only fair that an author be allowed some latitude in determining what may or may not, in his estimation, be essential.

A System of Practical Surgery—By Prof. E. von Bergmann, M.D., Prof. P. Von Bruno, M.D., and Prof. von Mikulicz, M.D. Vol. III., Translated and Edited by William T. Bull, M.D., of New York. Lea Bros. & Co., New York and Philadelphia, 1904.

The third volume is of particular interest to general practitioners as well as surgeons, as it deals with the surgery of the extremities, including malformations, injuries, fractures and diseases. It represents the ideas and methods of the German school, with the additional views of the American school in bracketed notes. The chapters are very full and the work is well illustrated. Methods, concerning which there still exists widely different views, are discussed fairly and judicially. It may be noted that the open treatment of fracture of the patella is represented as growing in favour during the last few years. There is, however, a very careful description of the essential differences found in a series of these fractures, particularly, as to the extent of injury to the so-called "reserve extensors," and it is made quite clear that the cases for open treatment must be carefully selected. The functional results obtained by splints, bandages and massage are in favourable cases so good, that one might hesitate to advise a method always attended by a certain amount of hazard.

The discussion of Lorenz's bloodless method of treating congenital dislocations of the hip, seems to be very fair, and it is advised in the case of young children. Mikulicz's hip splints are also commended. In the discussion of the various fractures, careful attention is given to the points in differential diagnosis. The chapters on malformation are

very rich in illustrations, drawn from the great variety of cases, seen to such advantage and in such numbers in the large German and Austrian clinics. The volume is fully up to the standard of its predecessors.

Diseases of the Intestines and Peritoneum—By Prof. Dr. Hermann Nothnagel, Professor of Special Pathology and Therapy, University of Vienna; Edited with additions, by Humphrey D. Rolleston, M.D., F.R.C.P. Physician to St. George's Hospital, London. Authorized translation from the German, under the Editorial Supervision of Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, New York, London. W. B. Saunders & Co., 1904; Toronto, J. A. Carveth & Co.

The series of monographs issued under the editorship of Prof. Nothnagel have been of a very high order. Their influence must be very greatly extended by Prof. Stengel, who has supervised the translation of the second edition, which appeared in 1903. Most readers, will proabably be ready to admitt too, that the additions and interpolations by Dr. Rolleston bring the work to a yet higher degree of excellence.

The opening chapter deals with that complex subject, the chemical processes that occur in the intestine, taking up seriatim the pancreatic juice, the bile, the intestinal juice and the excreta. The composition of the pancreatic juice and action of the various enzymes and ferments contained in it are stated. Many observers are working on the problems associated with the pancreatic fluid and bile, and there is gradually appearing a more definite knowledge and a greater unanimity of opinion concerning their value as excretions and as secretions. While experiments *in vitro* show that the bile exercises no chemical effect on proteids or fats it is quite clear that the fats are emulsified by the actions of the bile and pancreatic secretions, so as to form a very minute and stable emulsion. As a result of his researches Röhmann believes that the bile increases peristalsis.

The articles dealing with peritonitis and ileitis are of unusual interest. A distinction is made between "antiperistalsis" and "recoil contraction" (Rückstosscontraction). The symptoms of ileitis are contrasted with those of peritonitis. Each symptom is fully discussed. In fact this subject of such great interest to the clinician is more fully treated than usual, but not more fully than its importance justifies.

Peritonitis is given an important position, and the various causes full consideration. After discussing the possibility of a primary idiopathic inflammation, the author concludes that it cannot be positively

proved to exist. The chapter on appendicitis is one of great interest. The various factors, anatomy, histology, position, blood supply and bacterial invasion, receive due attention.

It is pointed out that narrowing and obliteration of the lumen of the appendix are not necessarily pathologic. The appendix, being a rudimentary organ, tends to undergo certain involution processes, which may end in obliteration of the canal.

That the appendix contains lymphoid tissue is well known, but that the appendix contains as much lymphoid tissue as the tonsils is possibly an exaggerated statement. The tonsils are easily infected from the various buccal bacterial flora, and so is the appendix from similar flora in the cæcum. It is significant that the majority of the cases of appendicitis occur "within the first half of life"—before the thirtieth year; this observation is interesting because Ribbert has shown that, from this time on, the follicles of the appendix begin to atrophy.

The section on the treatment of appendicitis is, for the most part, in accord with generally received views. Many practitioners, however, who have had large experience in appendicitis, will challenge the use of opium in the early stages of acute cases. The pain is nearly always controlled by heat or cold applied locally, and if the diet is properly regulated and purgatives avoided, there will be very little active peristalsis. Altogether the work is of the highest character, and written in a lucid and interesting style.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Prof.. Carl Von Noorden, Frankfort, A.M. American edition by Boardman Reed, M.D. Part V. Concerning the effects of saline waters on Metabolism. 1904. E. B. Treat & Company, New York.

The present volume is part V. of this interesting series of monographs. The previous volumes dealt with Obesity, Nephritis, Colitis and the Acid Intoxications, and each is sold at the small price of fifty cents.

This publication is the second edition of a thesis published from Von Noorden's clinic by Dr. Carl Dapper, with amplifications based upon subsequent investigations at Kissengen and Frankfort, by these two eminent physicians. The results recorded are in some respects different from those previously obtained by experimenters upon animals, and healthy individuals, and are contradictory of the notions previously entertained as to the action of saline and alkaline waters. These investigations are of great importance, dealing, as they do, with the effect of saline waters on digestion, and the arrangement of diet during the

process of taking the waters. The whole subject of balneology is placed on a much more rational basis.

INTERNATIONAL CLINICS; a quarterly of illustrated clinical lectures and original articles; edited by A. O. J. KELLY, A.M., M.D. Vol. II., 14th Series: Philadelphia, J. B. Lippincott Company; Montreal, Charles Roberts, 1524 Ontario St. Price, $2.00.

The volume of International Clinics for July is issued. The articles are timely and practical, and are well illustrated by two coloured plates, the one of Trypanosoma, the other of intestinal lesions in Uncinariasis. There are in addition thirty plates in black and white and many figured drawings. The volume deals with Diseases of Warm Climates, Treatment of disease, Medicine, Surgery, Pediatries and Rhinology. We note with pleasure Dr. McCrae's review of recent progress in Tropical medicine. The section upon Treatment deals chiefly with diseases of the heart and blood vessels. Arterio-sclerosis is done by Dr. Nichols; the gastro-intestinal form of this disorder is done by Dr. Bierring; digitatis in heart disease, by Dr. French, and impaired compensation, by Dr. Long. The other departments are generally varied, and the whole volume is deserving of nothing but praise.

MANUAL OF MEDICINE. By THOMAS KIRKPATRICK MONRO, M.A., M.D., Glasgow. Baillière, Tindall and Cox, London; Chandler and Massey, Toronto. 1903.

This volume of 900 pages is intended for students, and the belief is expressed in the preface that it will also be of service to junior practitioners. That is our belief too. The teaching is sound, the arrangement good, and the volume is pleasant to the eye and the hand.

EPILEPSY AND ITS TREATMENT. By WILLIAM P. SPRATLING, M.D. W. B. Saunders & Co., Philadelphia, 1904. Toronto: J. A. Carveth and Co. Price $4.00 net.

Wthin the compass of a little over five hundred pages, Dr. Spratling has included practically all that is known about epilepsy, a disease upon which, up to the present, no complete treatise has appeared in America since that of Echeverria was published thirty-three years ago. The volume, a truly valuable one to both student and practitioner, represents the practical experience of Dr. Spratling as Superintendent of the Craig Colony for Epileptics, at Sonyea, N.Y., during a period of ten years. The labour bestowed upon the work must have been enormous, and no praise is too great for the able way in which the author has accomplished his onerous task. The chapters on causation, the various forms of aura, and treatment are especially interesting, while those devoted to

the psychologic and medico-legal aspects of "the sacred disease" will amply repay perusal by all interested in the study of mental disorders. The illustrations are numerous and good, and the work throughout is, as stated in the preface, "a credit from the standpoint of the book-maker's art." T. J. W. B.

Medical News.

MARITIME MEDICAL ASSOCIATION.

The fourteenth annual meeting of the Maritime Medical Association was held in Halifax, commencing July 6th.

Dr. G. M. Campbell, the president, delivered the annual address. He dealt with the history of vital statistics in the Maritime Provinces. In regard to reciprocal registration, he said that there existed a strong spirit of concession which might lead to an arrangement between the provinces.

Dr. Arthur Birt read a paper upon some affections of the feet, and Dr. A. B. Atherton described an operation upon a patient with gall-stone in the common duct. Dr. G. C. Vanwart reported a case of suppurative perihepatitis with recovery after operation. The significance of casts in the urine was considered by Dr. L. M. Murray, of Halifax.

Upon the afternoon of the first day, Dr. Chisholm, president of the Nova Scotia Medical Society, delivered an address. There was a presentation of clinical cases, and Dr. Ernest W. Cushing, of Baltimore, reported upon tuberculous kidney and ureter. Dr. Simon, of Baltimore, who was to have read a paper was not present. Dr. Campbell, of Halifax, completed the session with a case report.

In the evening there was a general discussion upon Inflammation of the serous membranes, and the following papers were read:—Uterine Hæmorrhages and their causes, by Thomas Cullen, M.B., Baltimore; Some Recent Developments in European Gynæcology, by Walter Chipman, M.D., Montreal; The use of the X-Ray in the Surgery of the Diseases of Bones, by E. A. Codman, M.D., Boston; Notes on some cases treated with X-Rays, by H. D. Weaver, M.D., Halifax; Legislation for the prevention of Blindness, by E. A. Kirkpatrick, M.D., Halifax.

At the morning session of the last day, after the election of officers, Dr. W. F. Hamilton, of Montreal, read an address in Medicine. There was a discussion upon compound fractures, and two papers were read, one upon Goldthwaite's operation on the Patella, by Dr. MacKeen, the other upon stricture of the œsophagus, by Dr. John Stewart, Halifax. The meeting concluded with case reports by Dr. T. C. Watson and Dr. W.

E. Moore, and three papers:—the Dissemination of Disease by railroad trains and other public conveyances, by J. F. MacDonald, M.D., Hopewell; the Public Health Act in Nova Scotia, by A. P. Reid, M.D., Halifax; and Medical Protection, by Henry P. Clay, M.D., Pugwash.

The following officers were elected: President, S. R. Jenkins, Charlottetown; vice-president for New Brunswick; G. C. Vanwart, Fredericton; vice-president for Nova Scotia, G. E. Dewitt, Wolfville; vice-president for Prince Edward Island, F. F. Kelley; secretary, T. D. Walker, St. John; treasurer, Huntley McDonald, Antigonish; secretary of local committee of arrangements at Charlottetown, H. D. Johnson. It was decided to invite the Canadian Medical Association to meet in Halifax in 1906.

COLLEGE OF PHYSICIANS AND SURGEONS.

The College of Physicians and Surgeons of the Province of Quebec completed the semi-annual meeting on the 6th of July.

The treasurer's report showed that the total receipts amounted to $8,799.69, while the expenses were $4,289.63, leaving a balance of $4,510.06 on hand.

Following are the names of graduates, fifty in number, admitted to the practice of medicine:—George E. Beauregard, John George Browne, Raoul Philippe Bonin, Arthur Bergeron, Isaac E. Crack, Thomas Fred. Connelly, Omer Etienne Desjardins, Edgar David, James Robert Goodall, Richard H. M. Hardisty, John Johnston, Watts Grey, Havelock Lippiatt, Philippe Quesnel, George Marcotte, Louis Pierre Marceau, Narcisse Henri Fouchette, Thomas Lankin Wilson, John A. Nutter, Jos. A. B. Godbout, Jos. Elie Belanger, Jos. Alf. Drouin, P. A. Gastonguay, Emile Fortier, Adrien Bonin, Leonidas Blais, Arthur Gagnon, Zephirin Vezina, Chs. Edouard Eaton, H. A. Sims, Jean-Marie Pellerin, Frederick P. Yorston, James Joseph McGovern, Arthur De Grandpre, Moise Verronneau, George Tanner, Arthur Gould, Theophile Laurin, William Allen Cumming, Walter Johnston, William Ernest McKee, Walter Flood, W. William Francis, Alphonse Dorion, John James Andrews, Harry Lorne, John Alexander Misses Esther Kristal and Mary Rowland.

MEDICAL COUNCIL OF ONTARIO.

The annual meeting of the Medical Council of the College of Physicians and Surgeons of Ontario was held on the 27th of June in Toronto. Hon. D. Sullivan of Kingston was elected president for the ensuing

year. The chief matter before the council was the subject of reciprocity in medical registration, which was brought up by communications from Johns Hopkins University and from the medical councils of Quebec and Nova Scotia. A special committee consisiting of Drs. Bray, Brock, Campbell, Hillier, Johnston, Macdonald and Spankie, was appointed to consider the matter.

The council made the following appointments to the Board of Examiners:—Descriptive anatomy, Dr. McKay, Oshawa; Dr. Ryan, Kingston. Midwifery, Dr. McCabe, Strathroy. Physiology and histology, Dr. A. Primrose, Toronto. Surgery, Dr. W. T. Parke, Woodstock. Medicine and surgical anatomy, F. H. Middleboro', Owen Sound. Chemistry and toxicology, Dr. A. R. Pyne, Toronto. Materia medica and pharmacology, Dr. J. S., Sprague, Stirling. Medical jurisprudence, Dr. D. Sinclair, Woodstock. Assistant examiner in diseases of women and surgery, Dr. R. Ferguson, London. Clinical surgery, Dr. O'Reilly, Toronto.

NEW BRUNSWICK MEDICAL SOCIETY.

The New Brunswick Medical Society held the twenty-fourth annual meeting in St. John, on the 19th July. The president, Dr. J. Douglas Lawson, delivered the annual address, the subject being Medical Societies, their beginning and development.

The following officers were elected for the ensuing year: President, H. R. Myers, M.D., Moncton; 1st vice-president, E. T. Gaudet, St. Joseph's; 2nd vice-president, Geo. N. Pearson, Sussex; Treasurer, G. G. Melvin; Corresponding secretary, W. H. Irvine, Fredericton; Secretary, L. R. Murray, Sussex; Trustees, G. M. Deacon, Milltown; J. McNichol, Bathurst; J. C. Mott, St. John.

The Thirtieth Annual Session of the Mississippi Valley Medical Association will be held at Cincinnati, Ohio, October 11, 12, 13, 1904, under the presidency of Dr. Hugh T. Patrick, of Chicago. The headquarters and meeting places will be at the Grand Hotel.

The annual orations will be delivered by Dr. Wm. J. Mayo, of Rochester, Minn., in Surgery, and Dr. C. Travis Drennen, of Hot Springs, Ark., in Medicine.

Request for places upon the programme, or information in regard to the meeting, can be had by addressing the Secretary, Dr. Henry Enos Tuley, Louisville, Ky., or the Assistant Secretary, Dr. S. C. Stanton, Masonic Temple, Chicago. The usual railroad rates will be in effect.

The Prince Edward Island Medical Association met on the 13th July,

in Charlottetown. The president, Dr. H. W. Robertson, occupied the chair and Dr. S. R. Jenkins acted as secretary. The following officers were elected: President, Dr. Jardine; Vice-presidents, Dr. Murchison, West River; Dr. McIntyre, Montague; Dr. McGrath, Bloomfield; Treasurer, Dr. Conroy; Secretary, Dr. H. D. Johnson; Medical Council: Dr. Conroy, President; Dr. S. R. Jenkins, Registrar; Drs. Kelly, McNeill, H. D. Johnson, McLaughlin and Murchison.

The American Academy of Ophthalmology and Oto-Laryngology will hold the ninth Annual Meeting, at Denver, on August 24th, 25th and 26th, 1904.

Dr. Franklin Oulton, of Moncton, died on the 4th of July in the fifty-fifth year of his age.

Dr. Victor Venner died in Campbellton on the 23rd of June, in the 55th year of his age.

Dr. N. A. Smith of Stanbridge, and formerly of Frelighsburg, died on the 24th of June. He was a graduate of McGill, and was in his 71st year.

The additions to the St. Boniface Hospital will be completed in May next, at a cost of $250,000, and will make it the largest institution west of Toronto.

Dr. R. A. Dakin died on the 15th of June, in Pugwash, after a short illness of cancer of the stomach. He was born in Digby in 1836, and graduated at Harvard in 1870.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

C. W. Dean, F.R.C.S. (Edin.). "Acute Necrosis of the Lining Membrane of the Urinary Bladder." *The Practitioner*, June, 1904.

The case is a remarkable one not only on account of the rarity of such pathological condition, but also because the necrosed membrane was removed by a suprapubic cystotomy and the patient is now in good health. There was probably some disease of the bladder during boyhood as his water used to stop, and he had to get up frequently during the night to micturate. The present illness came on suddenly with complete retention. A soft catheter was passed 24 hours later, but could be inserted for only two inches when it became held so firmly it could not be with-

drawn. Calculus was diagnosed and the urethra opened, when a phosphatic stone was removed. The catheter was then passed into the bladder, but only a few drops could be obtained. The bladder was aspirated 24 hours later and again hardly any urine came away. The following day he passed the large quantity of 95 ozs. The temperature began to rise from this date, and symptoms of septic intoxication developed, though he was passing from 50 to 26 ozs. daily. About a fortnight later as the urine had dropped to 3 ozs., a suprapubic cystotomy was done and the cast removed. The pathological report shows it to be a portion of membrane from the bladder consisting of necrosed vesical mucosa, submucosa and musculature. Almost the entire thickness of the bladder had sloughed away, due to an extreme toxic action on the part of infective organisms. These are of two or three kinds, but the most numerous are streptococci. The infection appears to have been from within, as the mucosa and submucosa are thickly crowded with cocci which gradually become scarcer towards the muscular coat. The condition of the interior of the bladder before the suprapubic wound closed was curious. The sac would barely admit two fingers, introduced vertically, and rapidly narrowed towards the urethral orifice to form a sort of triangle. The walls were smooth, rigid, and non-contractile. The orifices of the ureters were patent and urine freely secreted. A later report states that the sphincter vesicæ seems to have regained some power, and the bladder now can retain as much as five ounces of urine, the patient knowing when he wishes to pass it, and is able to do it in a natural manner. This is distinctly interesting, as in the earlier stages the bladder was a mere cleft and it seemed much more likely that it would cicatrise completely than that it would again dilate and become a useful organ. It is thought by the writer that the necrotic action began prior to the removal of the calculus, and that the bacillus coli was the "foci et origo" of the condition.

Willy Meyer, M.D. "When and how shall we Operate for Prostatic Hypertrophy." *Medical Record*, June 25, 1904.

The following conclusions are drawn regarding these two important questions. The surgeon should be able not only to perform perineal or suprapubic prostotectomy properly, but also to do Bottini's operation; for no one method of operating is applicable to all forms of prostatic enlargement, and we must, accordingly, select the operation that suits the case. In view of the present status of prostatic surgery, the catheter should no longer be advised as a routine measure in the surgical treatment of prostatic enlargement, but operative intervention urged as soon as the time for the regular use of the catheter has come. Prostotec-

tomy, being the most radical as well as the most surgical procedure, commands the first place, especially since the technique has been perfected to such a point as to render the operation a comparatively safe one, the mortality having been shown to be less than 5 per cent. The perineal route seems preferable to the suprapubic, for the reason that it enables the surgeon to do the operation more under the guidance of his eyes. The choice of route in the average case will probably hinge on the question of preservation of sexual power, provided this point is of importance to the patient. The patient's age, as such does not furnish a contraindication to operation, it is his general condition merely that has to be taken into consideration. When the effects of general anæsthesia are feared, spinal anæsthesia is indicated. If the operation with the knife be refused or contraindicated Bottini's operation should be advised, since it, too, yields excellent results. We have prostatectomy by the perineal or suprapubic route, and Bottini's operation, each holding its own place, and one complementing the other.

Edred M. Corner, B.Sc. Lond., M.A., M.B., B.C. (Cantab.) F.R.C.S. Eng. "The Value of the Imperfectly-Descended Testis; the Advisability of Operation, and the Value of the Operations Performed for its Relief." *British Medical Journal.* June 4, 1904.

The term "imperfectly-descended" is preferred to the more common one of "undescended testicles," the latter being regarded as clumsy and inexact. The value of the imperfectly-descended testis is given as follows: It can very rarely if ever produce spermatozoa, though there is a faint possibility of this occurring about the age of twenty and lasting a year or so. But it is endowed with very various capabilities with regard to assisting the development and perfection of other sexual features. The extent of these powers it is impossible to estimate, as the failures of the testis may be due to the same fundamental cause that has led to the absence of beard, male voices, etc. When the condition is bilateral the outlook is bad, as there is no known remedy for errors of development; but, if failure is only unilateral, there need be no alarm for the perpetuation of the species and the assumption of manly grace. If the testis is allowed to remain long in its imperfectly-descended position it will become largely functionless on account of undergrowing sclerosis, which may be hastened by torsion of the cord. Attacks of pain probably indicate spasmodic increments of that torsion, and abortive suicidal attempts at strangulation by the organ. Also, a hernia sac is found in about 70 per cent. or so of the cases. Hence, operation should be considered in every case of imperfectly-descended testis and adopted in a large number. To sum up the value of the various operative procedures,

it may be said that orchidopexy is only applicable in mild cases, and perhaps even then may not often be called for; while orchidectomy is only justifiable under special pathological conditions, e.g., torsion, severe neuralgia, extreme atrophy, and in older cases, that is after puberty and a possible and problematical period of testicular activity and spermatogenesis has passed, say from 23 upwards. Replacement in the abdomen is indicated in far the majority of cases, and should be always done before puberty, and, perhaps, up to the age of 20 or thereabouts. It would appear the earlier the operation the better should be the result. No operation may be called for in mild cases when the testis is close to the bottom of the scrotum, or when the testes are abdominally retained. Operative interference is demanded in most cases on account of secondary changes of an inflammatory and sclerotic nature in the testis, which the position of imperfect descent leads to. There is also the frequent coexistence of a hernia, and in cases where it does not often or never has come down previously, the narrow opening or neck of the sac may cause one of the most dangerous varieties of strangulation.

The acquired imperfectly-descended testis is almost always the result of an operation for the radical cure of a hernia, and depends upon one of three causes. The testis may be really an imperfectly-descended one, made to assume the normal position by means of the propulsion of the hernia, and so, when the hernia is cured, the testis is apt to assume its original position. Again, if the hernia sac is not well freed from the cord, on returning the sac into the abdomen the testis may be pulled up into a higher position. Lastly, by an improperly applied bandage the testis may become adherent to the scar of the operation. It is important to remember that imperfect descent of the testis is frequently accompanied by a hernia, and that a hernia may be accompanied by an imperfectly-descended testis, especially in children when the sac is a congenital one.

W. Watson Cheyne, F.R.C.S., Eng., and Haydock Wilbe, M.D., Durh., L.R.C.P., Lond., M.R.C.S. Eng. "A Case of Perforated Gastric Ulcer in a Boy Aged Thirteen Years; Diseased Appendix; Operation; Recovery." *Lancet,* June 11, 1904.

The interest of this case lies, in the first place, in the occurrence of a perforating gastric ulcer in a boy aged 13 years. The ulcer was a typical peptic ulcer. Gastric ulcers have been found in children, but apparently only of a tuberculous character. As to the cause of the ulcer, no suggestions are made, as there was an entire absence of any previous symptoms pointing to the stomach. The second point of interest is

that, partly as the result of the symptoms pointing somewhat to the appendix, and partly on account of the great rarity of the actual condition, the appendix was cut down upon in the first place, and was found to be long, thickened, a good deal reddened, and contained a large concretion. The third point of interest was the situation of the ulcer, being found high up under the diaphragm on the anterior surface of the stomach about one inch from the cardiac end.

W. L. B.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND W. F. HAMILTON.

James Barr, M.D., F.R.C.P. "A Clinical Lecture on the Treatment of Serous Effusions." *Bri. Med. Jn.*, 1904, p. 649.

In this article the author suggests the use of adrenalin chloride as an injection into serous cavities after tapping to check the further outpouring of fluid. He relates a number of cases indicating, some of them in a striking manner, the benefits of this procedure.

In an elderly lady with malignant disease of the abdomen and metastases of the pleura, fluid collected so rapidly in the pleural cavity that the patient was scarcely free from distress in breathing between the tappings. A drachm of adrenalin solution (1-1,000) was injected. There was no further secretion, consequently no further tapping, and the remainder of her life was spent in comfort.

Barr has injected as much as three drachms in cases of ascitic collections, due to cirrhosis, but as might be expected, the results were not striking.

In a boy with pericarditis, 19 ounces of fluid was withdrawn, and after a subsequent tapping and removal of 20 ounces, 40 minims of the solution were injected. The boy became pale and pulseless, owing, probably, to an excessive dose causing contraction of the coronary arteries, but rallied after the injection of nitroglycerine and atropine. No further tapping was necessary.

In addition to adrenalin Barr also recommends the introduction of sterile air to the pleura or peritoneal cavities. In a case of tuberculous peritonitis, three tappings, with the injection of adrenalin and sterile air produced a subsidence of the effusion.

F. Widal. "La Cure de Dechlorination dans le Mal de Bright." *Arch. Gén. de Méd.* May 21, 1904.

This method of treatment consists in the restriction of chlorides in the diet.

The writer was the first to show that the administration of chlorides favors the collection of water in the tissues of Bright's disease, and that diseased kidneys are frequently impermeable to these salts, or at least often eliminate a smaller amount than in health.

In a case of Bright's disease with predominance of the epithelial type, the patient was submitted, during a period of twelve weeks, to two dietaries, one containing salt and the other free from it. In four trials, during which chlorides were administered, the patient's weight increased, owing to hydration of the tissues, although on only two of these trials did actual œdema appear. On the other hand, when chlorides were withheld, the body weight diminished, owing to dehydration, and this result was constant in five separate trials. On a milk diet with ten grains of salt daily, œdema appeared; with a diet of meat, bread and potatoes without salt œdema disappeared, and albumen in the urine notably decreased.

The term pre-œdema may be used to denote the collection of fluids in the tissues, and its presence is indicated by the increasing weight of the patient. This feature is one of great importance, and is often accompanied by such symptoms as dyspnœa and hyper tension. Even the more marked nervous manifestations of uræmia may appear as the result of the retention of fluids in the tissues.

In many cases of Bright's disease the quantity of albumen follows the curve of the retained chlorides, and by withholding chlorides the quantity of albumen may be markedly lessened. The lessened permeability of the kidneys to chlorides varies in different cases and at different periods in the same case. In health 15 grains are absorbed and eliminated daily, whilst in the terminal stages of Bright's disease only a few centigrams may be secreted. On a milk diet about 5.5 grams of salt are ingested daily, yet even this small quantity may prove to exceed the excretory power of the kidneys, and consequently œdema tends to persist. If now the diet is changed to meat, potatoes and bread, free from salt, a lessening or disappearance of œdema and a diminution in the weight in the body takes place.

In order to estimate the permeability of the kidneys to salt, the chlorides should be estimated during a period of several days, a procedure which takes but little time or trouble. In practice the use of the scales may be substituted for analysis, and the quantity of salt lessened should weight increase and especially should œdema appear. The amount of salt ingested daily with an ordinary food ration is about 1.5 grams, and the amount of salt administered above this should be weighed to gauge the total quantity taken.

The duration of this treatment varies in different cases, and when a

diseased kidney may become permeable to salt it is useless to continue the treatment. Richet states the amount of salt necessary to maintain equilibrum in health is only 2.5 grams, the remainder being of use only as seasoning, so that a marked diminution in the quantity of salt is not any drawback in the value of food.

A diet free from salt is often preferred to a strict milk diet, and it may be made palatable by a little care in cooking. Meat with a little butter and lemon, potatoes roasted or fried in butter, various vegetables such as peas and carrots, may be used free from salt without any great hardship for a limited period.

Ambard et Beaujard. "Causes de l'Hypertension Artérielle." *Arch. Gén. de Méd.* March 1. 1904.

The retention of chlorides is a potent cause of high arterial tension, and in Bright's disease the impermeability of the kidneys to chlorides is frequently associated with high tension.

Six cases of Bright's disease are recorded with graphic charts, showing that a diet free from chlorides is accompanied by a lower arterial tension, whilst addition of chlorides to the diet is marked by their retention in the body and high tension. The results are rather vitiated by the fact that the salt was added to the same diet, but given in bouillon, a substance which, as Von Noorden has shown, is injurious in renal conditions. The experiments are suggestive, and merit repetition with the elimination of such an obvious source of error.

In one of the cases a purgative lowered the tension and at the same time produced elimination of chlorides to the extent of 20 grams by the bowel. The writers attribute the lower tension solely to chloride elimination.

The authors conclude that, with the exception of dilatation of the heart, high tension is associated with salt retention.

OBSTETRICS.

UNDER THE CHARGE OF J. C. CAMERON AND D. J. EVANS

Maximilian Herzog, M.D. Placentation in a Uterus Duplex Bicornis Gravis, Menses 1—2." *Am. Jour. Obstet.* June, 1904.

This valuable contribution to the literature of human placentation seems to settle one or two hitherto disputed points.

The specimen was obtained by operation on a living woman, the case having been erroneously diagnosed as one of ectopic gestation. By a supra-vaginal amputation the whole uterus was removed and carefully preserved. The uterus was found to be divided into two bilateral masses, which were oval-shaped and united below into a single cervix, which was

divided into a double cervical canal by a strong median partition. There was a complete open cervical canal on each side of the partition, with two ora externa. The right horn of the uterus was somewhat longer than the left. In the right horn was found an ovum elliptical in shape with diameters of four and a half and four cms. It was found to contain an embryo twelve to thirteen mm. long, with an umbilical cord of the same length. The decidua in both horns was found to be thick and thrown into deep furrows and rugae, these being more marked in the right horn. There was found in upper part of the left horn a small round body four mm. in diameter, which projected over the surface of the surrounding decidua. This corresponded to the site of the placenta forming in the right horn, and seems to have been an effort on the part of the decidua to form a suitable nidus for the reception of an ovum, and to have resulted from the stimulus of the ovum in the other horn.

From a careful study of this remarkable specimen the author forms the following conclusions:—

1. The *syncytium*, is neither derived from the maternal vascular endothelium nor from the living epithelium of the uterine mucosa. Positive evidence that the syncytium has phagocytic properties has not been found, but the conditions as far as demonstrable rather speak in favour of the view that the rapidly extending syncytium insinuates itself into the clefts of the decidua, and between the decidual cells, and finally penetrates into the enlarged capillaries through the stomata of their extremely thin walls. In doing so the endothelia are to some extent displaced.

2. The cervix shows hypertrophied muscle cells, but its mucosa does not show the structure of decidua, but rather a very moderate amount of hypertrophy.

3. *Fœtal and Maternal Blood.*—The chorion and the villi in a placenta, one or two months old, contain blood vessels. The statement made by Gebhard, that no blood vessels appear in the villi before the third or fourth months is not correct. The chorionic and villous vessels of a placenta one to two months old contain nucleated red blood corpuscles only of the type of metrocytes of the first generation. Leucocytes are entirely absent. The intervillous space contains maternal blood of the type of the normal blood of the adult.

W. A. Newman Dorland, A.M., M.D. "Puerperal Hæmatoma. Tardy Development of a Fatal Case of the Vagino-Vulvo-Perineal Type." *Am. Jour. Obstetrics,* June, 1904.

The author reports an interesting case of this rare complication of

gestation. The patient, aged 28 years, had suffered from an attack of inflammatory rheumatism at the age of nine years, which had left her with a mitral lesion. Her health had otherwise been good, though she was of a delicate disposition. In May, 1903, she had been delivered of a dead fœtus in the fifth month of her pregnancy. In August of 1903 she again became pregnant. At first she suffered from severe nausea and vomiting, as well as from a severe attack of urticaria. In the sixth month a trace of albumen was noted in the urine, which disappeared under treatment. It reappeared in the seventh month, and the patient complained of abdominal distress and shortness of breath. Constipation was persistent. Early in April the patient fell into labour, and an eight-months still-born child was expelled in a few hours. The placenta came away normally, and a dose of ergot was given the patient. There was no sign of hæmorrhage or of collapse. The after pains were not severe. About 36 hours later patient began to bleed freely from the uterus, but stypticin and ergot produced a good effect. At this time a dark spot was noticed on the right labium majus, which slowly increased in size. There was also severe pain in the right ovarian region, and marked tympanitis rapidly developed. The usual symptoms of hæmorrhage manifested themselves, though the pulse was only 100.

Under treatment she improved, the bowels moved. Within a few hours the dark spot on the labium extended into the vagina and back on the external perineal surface as far as the rectum, which became patulous. The tumour felt tense but was not tender to the touch. Later the same day the patient experienced a sinking spell preceded by a sensation of tingling in the right hand and arm. The power of speech was gradually lost. The mind was clear and there was no facial paralysis. Complete paralysis of the right side then developed, and the patient died seventy-six hours after the birth of the child. At the post-mortem the peritoneal cavity was found free from blood. There was no hæmatomatous formation in either broad ligament, nor was there any involvement of the bladder. The clot was found to extend from the pubic mass was apparently encapsuled and tightly adherent to the walls of the sac. It measured 7 by $3\frac{1}{2}$ by 1 inch. The uterus was found normal in every respect.

The author suggests that it would be interesting to ascertain whether or not in these cases there always pre-exists a chronic valvular lesion or some chronic renal affection, as both of these conditions predispose to a varicose condition of the vessels of the lower portion of the body, which, in association with physiological thinning of the venous walls in gestation would strongly predispose to rupture and hæmatomatous formation.

A. G. Sturmer, Lieut.-Col. I.M.S. "Forty-one cases of Puerperal Eclampsia treated by Thyroid Extract." *Jour. of Obstet. and Gyn. of the British Empire.* June, 1904.

The cases reported in this paper were under the author's observation in the Government Maternity Hospital in Madras. The treatment, which was instituted in Sept., 1902, and continued throughout 1903, was as follows:—On admission the patient was given ten grains of thyroid extract, and five grains every four hours afterwards. If the urine was scanty a saline injection of one or two pints was given under the breasts or into the axilla, and a hypodermic injection of morphia gr. ss. was administered and repeated, if necessary, in two hours.

The author states that many of the cases came from long distances, being transported in springless carts over bad roads, and had not infrequently suffered violent treatment at the hands of quacks.

The records of the Madras Maternity as regards Eclampsia are shown ii the following table:—

	No. of cases.	Recoveries.	Deaths.	Per cent.
1871	16	9	7	44.4
1881	15	8	7	46.6
1891	23	21	3	13.0
1901	25	14	11	44.0

In 1871 the treatment consisted of 15 minim doses of veratrum viride every quarter of an hour, combined with potassium bromide. When the pulse fell to 60 the former was omitted, but was repeated if it again rose to 100.

In 1881 veratrum was given twice in 60 minim doses at intervals of two hours, and followed by a diaphoretic mixture.

In 1891 the treatment consisted of the administration of large doses of chloral and bromide, with chloroform during the spasms.

In 1901 no chloral or bromide was employed, but morphia in $\frac{1}{2}$-grain doses at certain intervals combined with salines, chloroform being used as required.

From 1870 to 1903 there were 369 cases of eclampsia treated, with a mortality of 28.7 per cent.

The author always induced labour and terminated as easily and rapidly as possible. The author cannot account for the good results in 1891, which gave a mortality of only 13 per cent. In the 41 cases treated by thyroid, morphia, and salines as above outlined, the mortality was only 12.2 per cent.

The effect of thyroid was to induce a considerable increase in the flow of urine after two or three doses, and by the end of twenty-four hours every case showed a very considerable increase. The saline in-

jections, on the other hand, when used without the thyroid, failed to increase the flow of urine till twenty-four hours had elapsed. In the cases treated 27 of the children were born alive; of these eight died within three days after birth. Fourteen were still-born, and of these three were macerated. The author noted that most of the cases occurred on dull, cloudy days, and suggests that the cooler temperature acting on the skin precipitates the attacks.

Robert Jardine, M.D., F.R.S.E. "Clinical Notes of a Series of Twenty-two Cases of Obstructed Labours, including Eight Cases of Induction of Labour, Four Cases of Symphysiotomy, and Ten Cases of Cæsarean Section." *The Jour. of Obstet. and Gyn. of the Brit. Empire.* May, 1904.

The cases reported in this paper were met with in the Glasgow Maternity Hospital in a service of six months. In the year 703 cases were delivered, and in this number there were 98 cases of contracted pelvis. Thus one case in every seven presented sufficient contraction in the diameter of the pelvis to render the delivery a matter of difficulty.

Cases of Induction of Labour.—There were all multiparæ, with histories of previous difficult labours. In five of them the C. V. measured $3\frac{1}{2}$ inches; two measured $3\frac{1}{4}$ inches, and one $3\frac{5}{8}$ inches. In all the operation was done in the interest of the child.

In one case craniotomy was required to deliver. The mother recovered. One case was delivered by forceps, and the others terminated naturally. One mother died of sepsis. One child died five days after its birth. Three children were stillborn, and four survived and did well.

The author takes issue with Williams, Pinard, Bar, and others, who condemn the operation, and advances the opinion that it is a perfectly justifiable operation in properly selected cases, especially in the hands of general practitioners.

"The great point to be decided in the matter is the size of the head relative to the pelvis, provided that the child has reached an age at which it will have a good chance of surviving." The child has a reasonable chance at the 32 week, but the nearer full term the better. If the head will not engage at this time Cæsarean operation at full term is to be preferred. Observation as to the relative size of head and pelvis should be made at intervals of one week.

Cases of Symphysiotomy.—All these cases were admitted in labour. Three were multiparæ, with histories of previous difficult labours, and one was a primipara.

In two of these the C. V. measured 3 inches, one measured $3\frac{3}{4}$ inches

and the other 3½ inches. All the children were delivered by forceps. Three of the children were born alive, but nothing is said of the condition of the other.

In one case the knife would not pass through the joint, and while a passage was being sought, the joint gave way, and on examination the bone was found to have given away into the obturator foramen, and at the same time the left ramus had fractured about the junction of the ischium and pubes. The fractured end of the bone caused a laceration of the vagina during the delivery. The patient made a good recovery.

The author doubts whether the operation of symphysiotomy will ever become popular. His experience of the operation is limited to six cases; in all there was considerable laceration of the soft parts and in two of them severe hœmorrhage was encountered. The care of these cases after delivery is very difficult, the convalescence is at least two weeks longer than of the Cæsarean operation. He considers that 3 inches is the lowest limit for this operation, but the relative size of the head must be borne in mind.

Cases of Cæsarian Section.—In the ten cases, one was done for extensive cancer of the cervix and nine for markedly contracted pelvis. The recovery of all the cases was uneventful. In one case twins were encountered. All the babies were born alive. One child became excessively jaundiced on the second day and died.

In operating the author states that he makes an incision of about five inches in length, two-thirds of it being above the umbilicus. Cameron's pessary is used to prevent bleeding from the uterus while incising it. The uterus is incised longitudinally, so that the top of the incision will not be at the fundus.

He states that the placenta has been found on the anterior wall in nine-tenths of all his cases. Catgut sutures were used for the uterus and silk to tie the tubes.

The operation was usually performed after labour had started. In his opinion the operation is attended with little risk in suitable cases. The risk is greatly increased if the patient has been some time in labour and has been repeatedly examined. In such cases craniotomy should be performed in preference.

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MARMOREK'S ANTI-TUBERCULAR SERUM IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

BY

ARTHUR J. RICHER, M.D.,

Montreal.

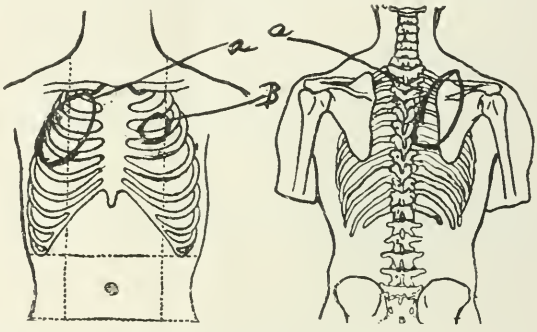
Since the communication made before the Academy of Medicine in Paris by Marmorek relative to the preparation and the uses of his tubercular anti-toxine, a deal has been written, against it at first, but recently of a more favourable nature. We know of the attack made upon this product by no less an authority than Dieulafoy, and the stir it caused at the time of its publication. It is evident that on the one hand the claims of Marmorek had been misunderstood, while on the other hand the results obtained in Dr. Dieulafoy's clinic must have been misinterpreted. If we look up the documents, the few that are available, we find that at the out-set two reasons contributed largely to these unfavourable results. In the first place the immunisation of the animals had not been carried to its full extent, giving a serum not sufficiently potent, which necessitated injections of very large quantities of serum, up to 40 gms., adding to the already depressing disease by super-imposing sero-toxic symptoms. In the second place, at the request of Marmorek, only advanced and hopeless cases were treated, so that should there have been any improvements noted, little doubt would have been left as to the therapeutic value of the serum. Now it seems to me, judging from past experience with anti-toxic serums, notably that of diphtheria, that anti-toxines exercise a toxic influence if given too late in the disease. In dealing with tuberculosis, we are dealing with a disease in which the types manifestly differ. We have, for instance, numbers of invalids with localized or discreet lesions who never show any effect of toxine absorption. Again, it is not unusual to find exacerbations during the course of chronic tuberculosis, in which the influence of the serum seems limited to the recent involvements.

We here offer a small number of observations of various types of the disease treated with Marmorek's serum; and while it is but fair to allow us to draw some conclusions, these observations are not sufficiently complete to make the results final.

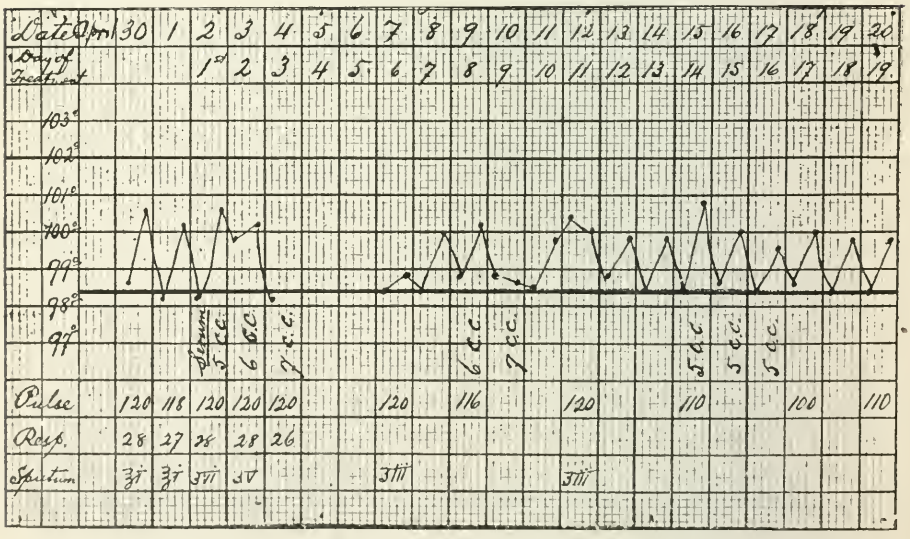
Does Marmorek's anti-tubercular serum possess bactericidal powers? This at the present time is a question very difficult to answer, yet I feel positive, as a result of clinical tests, that it is truly an anti-toxine, and that it does possess the power of inhibiting the growth of the tubercle baccilus, but as with all anti-toxines, this power is ephemeral.

Case No. I.

A single woman aged thirty-seven. Family history negative. Illness began in the summer of 1899. She was then treated in a sanatorium, and returned to her former occupation the following summer, and kept fairly well until the early fall of 1903, when she relapsed, went to the

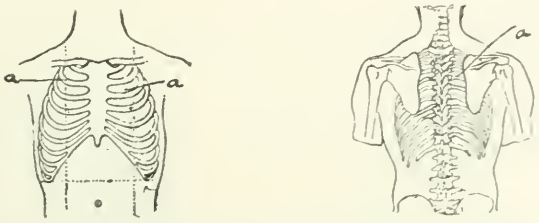


Case I. Fig. 1. *a*. Percussion, cracked-pot, mucous and crackling râles ; *b*. Percussion impaired, few crepitations.

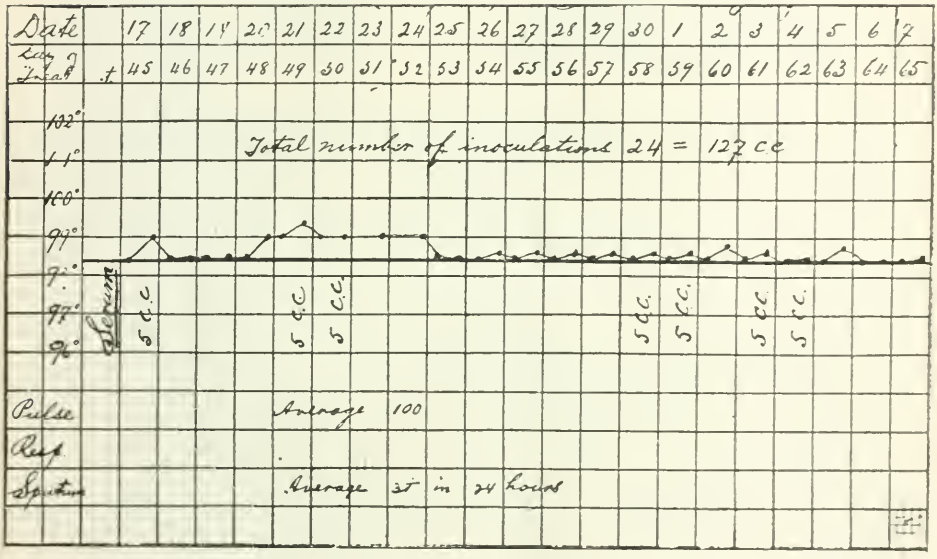


CASE I. CHART No. 1.

country, where she lived with relatives during the whole winter, and was examined on the 2nd May this year, the extent of the disease being noted on the accompanying Fig. No. 1. The condition at this time was distinctly *caseous,* and the amount of expectoration sometimes



CASE I. FIG. 2.—*a*. Impaired resonance ; no rales. July 16th, 1904.


Date
17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7
Total number of inoculations 24 = 127 cc
Serum
5 c.c. 5 c.c. 5 c.c. 5 c.c. 5 c.c. 5 c.c. 5 c.c. 5 c.c.
Pulse
Average 100
Resp.
Sputum
Average 35 in 24 hours

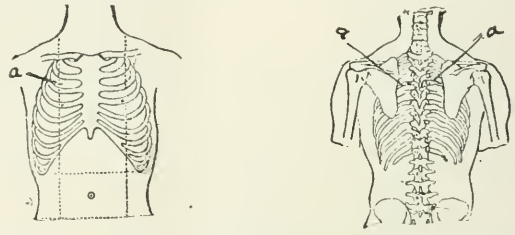
CASE I. CHART No. 2.

exceeded one ounce in the twenty-four hours. Temperature and pulse may be noted on the chart. This patient, who had during the previous six months been steadily losing in weight, in spite of the fact that she was living in the best surroundings, has in addition to the improvement in her symptoms since serum treatment, added nearly three pounds to her weight. Chart and Fig. No. 2 illustrating this case, give her condition at the time of writing (July 20th).

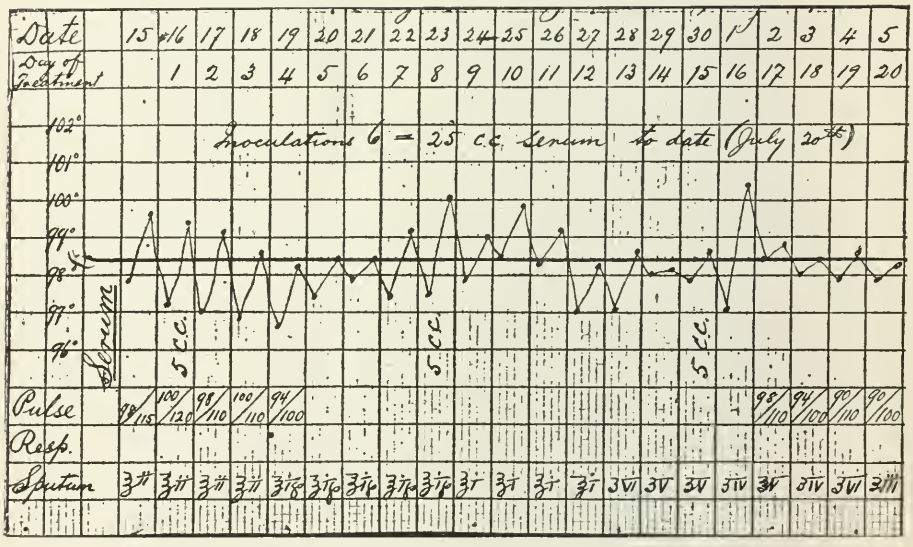
CASE NO. II.

A single woman twenty-one years of age. Family history negative. This patient's illness dates back five years, when it started as a

fibrosis. It is now fibro-caseous and progressive. The patient was first examined June 14th, 1904, and the result noted in the present chart (No. 3). The most notable improvements in this case have been the almost total disappearance of the night-sweats, improved appetite, increase in weight, and the decrease in the quantity of the sputum from two ounces to four drms. This patient



CASE II. FIG. 3.—*a*. Fibro-caseous; pulse, 118; temperature, 100°, Time 3.30 p.m. June 14th, 1904.



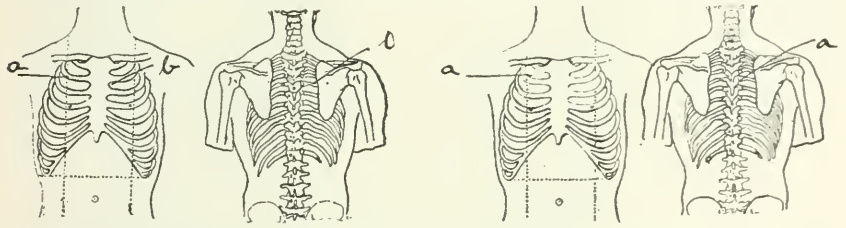
CASE II. CHART 3.

is still being treated, and while the case does not promise an eventual good result, the fact that a really hopeless condition has been somewhat improved is gratifying.

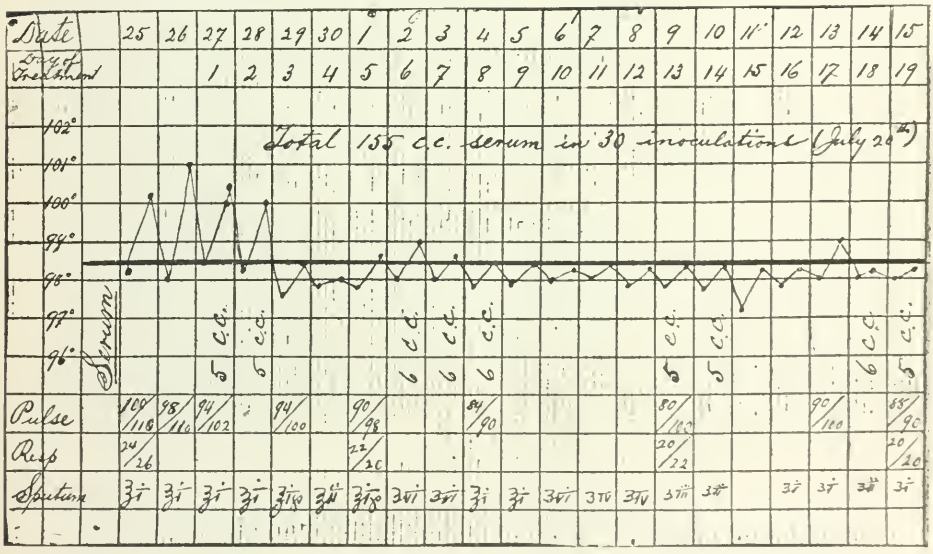
CASE NO. III.

This observation is rather interesting because of the fact that this patient was to all appearances developing an acute disseminated tuberculosis, extending from a pre-existing lesion dating back nearly two years. This patient is a man aged twenty-five. He has had the early

diseases of childhood, whooping-cough, measles, chicken-pox. Family history negative. Three years ago this patient had an ischio-rectal abscess, which was then opened, but left a fistula which still discharges. He has had two small abcesses in the same region since, which broke of themselves. This patient had a pretty profuse hæmorrhage about fifteen months since, which kept him in bed for about three weeks. He was gradually allowed to work, and evidently did not always feel able for his task, for he consulted a physician in his own country (Ireland) in March, and this physician advised that he should come to Canada



CASE III. FIG. 4.—*a*. Fibroid condition; *b*., disseminated condition. Left figures, April 27th, 1904. Right figures, July 11th, 1904.



CASE III. CHART 4.

in order to regain his health. The condition shown on his chart shows well the extent of the old fibrous lesion and also the more recent infiltration of a disseminated nature; but in addition to that the effects of beginning infiltration in the left lung are also shown. At the present time he still has a few bacilli in his expectoration, which, by the way, as will be noted, has diminished from one ounce to about half a dram in the twenty-four hours, while the

pulse has materially improved and the temperature remains normal. The chest examination reveals the presence of the fibrous focus, while all the signs of recent infiltration have disappeared.

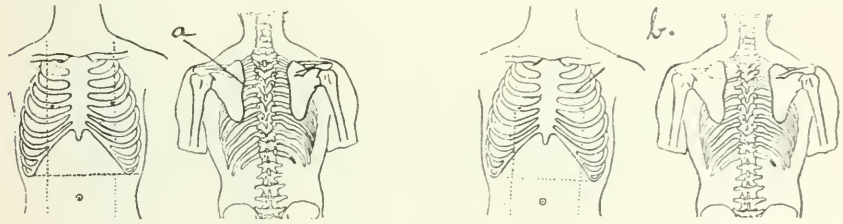
Case No. IV.

This is a lad fourteen years of age, whose personal antecedents show that he had pneumonia at three, whooping-cough at four, and measles at six years of age. As a very young infant, about eighteen months of age, he had suppurating ear disease, which was followed by some breakdown of the cervical glands. His father is living, in very good health; his mother has coughed for the last ten years, and has during that period of time had recurring hæmoptyses. A number of brothers and sisters died in early infancy, does not remember how many, but all of them died of marasmus. He has two brothers and two sisters living, and in very fair health. His present illness commenced in February of this year, when he had a persistent cough which in March resulted in a very profuse hæmoptysis. He was three days in the hospital and was discharged in a fair condition. He came under our observation in June, 1904, when he complained of persistent cough, emaciation and night-sweats. This patient has had but one inoculation, as a result of which all his symptoms rapidly improved, and instead of presenting himself for a second inoculation a week following the first, he was not seen again until a few days ago, and when asked as to why he had not returned for more inoculations, he simply answered that he felt so well that he thought he was cured, and he had only come to know whether he could take up some light work. He was examined, and the physical signs certainly showed a deal of improvement, while his afternoon temperature, which had always been 99 and over, was then normal, and his pulse 76 instead of 90 as it had usually been at this time of day. This patient will naturally receive a number of inoculations, and will be reported upon later.

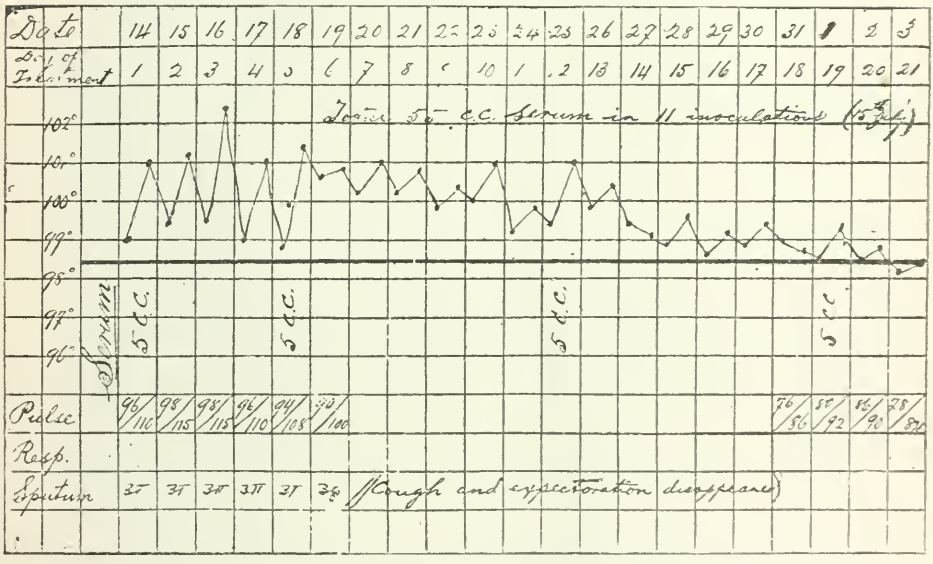
Case No. V.

A married woman aged forty-four years. No children. No history of early tuberculosis. Family history negative. Husband in splendid health. This woman enjoyed really very excellent health until about three years ago, when she noticed the glands of the right side of her neck swelling. These were treated at different times, but were never really much modified by treatment. She was told about a year ago that they were tubercular, and some mention made about their being removed. However, this was not done by her attending physician, and last fall she developed a cough, which was soon accompanied by emacia-

tion and almost an absolute distaste for solid foods. She managed to keep together during the winter, although feeling very miserable, and she came under our observation about the beginning of May, in a very pitiable condition. Pulse 120, temperature 101, chest examination revealed the presence of a focus posteriorly in the upper lobe, shown in the accompanying Fig., cervical glands on the right side standing out like a bunch of grapes, and the left cervical glands, while not



CASE V. FIG. 5.—*a*. Impaired resonance and sub-crepitant râles; *b*. cleared. Left figures, May 9th, 1904. Right figures, July 15th, 1904.



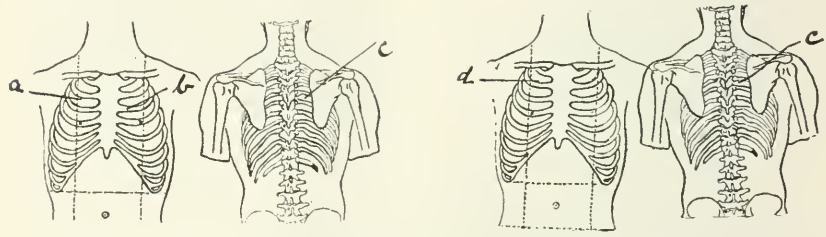
CASE V. CHART 5.

distinctly visible, were all quite the size of beans and easily felt. The bronchial glands on both sides were infiltrated. The study of her chart will give a better idea of what was done and what progressively resulted (Fig. and Chart 5). She was examined again on the 13th July, exactly two months after the serum treatment was commenced, and her lungs were then perfectly clear, while the glands had markedly diminished in size, were not at all painful, and

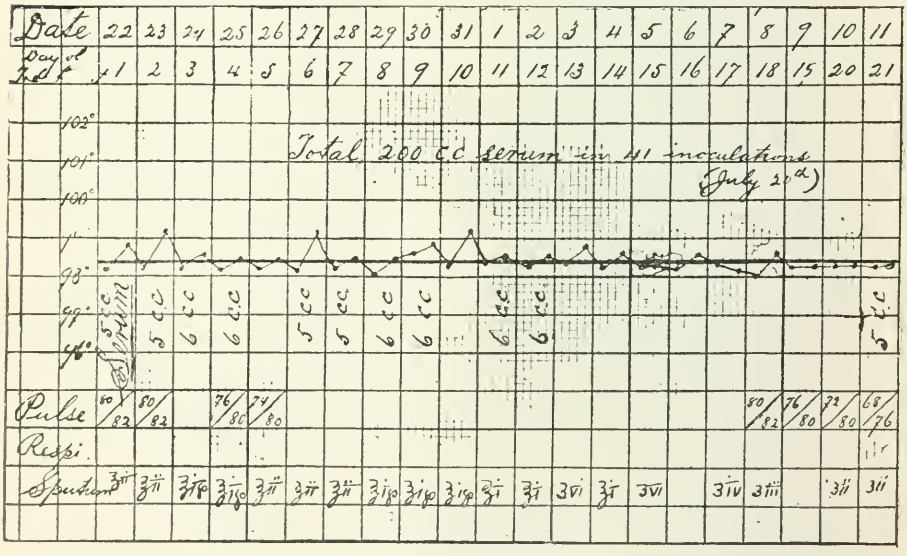
the pulse and temperature both normal. During these two months this woman has increased in weight a little over ten pounds, in fact the most notable effect of the serum was the voracious appetite it immediately developed in this patient.

Case No. VI.

This is a lady fifty-four years of age, suffering from broncho-pneumonic tuberculosis, whose husband died some ten years ago with laryngeal tuberculosis. She lost one sister about fifteen years ago with lung



Case VI. Fig. 6.—*a*. Percussion ; "cracked pot ;" *b*. percussion slightly impaired and expiratory crepitant rales ; *c*. fibroid change. Date March 22nd, 1904. *d*. Percussion unchanged ; no râles ; *e*. Unchanged. Date July 16th, 1904.



CASE VI. CHART 6.

disease. Never had any children. Enjoyed very good health until about five years ago; she then started to lose flesh, but picked up a little under tonic medication. However, about four years ago an examination of the chest revealed involvement of the right lung. She was treated for some time in a sanatorium, from which she was discharged about

nine months later with arrested disease. She kept very fairly well until the fall of 1902, when a relapse resulted during the winter, about February, in hæmoptysis, which was the second she had had. It was then discovered that the left side was also involved. She, however, recovered very fairly well, even while living in the city, but in March it was noticed that her cough and expectoration very materially increased, while there was then some rise in temperature. The condition up to this time had been practically apyretic. The accompanying chart shows the extent of the lesions about the end of March, and also the temperature curve (Chart 6). By comparing the two charts in this case one will readily see that there has been very material improvement. The patient still coughs a little in the morning, raises rarely more than a spoonful, has no fever, eats well, and has every appearance of excellent health, in spite of the fact that she has been given over forty inoculations of Marmorek's serum.

Case No. VII.

A woman aged twenty, confined on the 24th April, did fairly well until about the sixth day after parturition, when her temperature started to rise while nothing could be found in the lochia or about the genitals to account for the rise of temperature. She developed a very slight cough about the twenty-sixth day after confinement, her sputum was examined on three different occasions, and found to contain tubercle bacilli upon the third examination only, the thirty-first day after confinement. She had all this time been running very high temperatures, and had a very rapid pulse. She was examined upon the thirty-second day after confinement, and her right lung was uniformly involved throughout with miliary disease, while the left base was also quite extensively infiltrated. It was then evident that the disease was at the declining stage, and the woman's condition quite hopeless. The opinion was expressed, however, that she would likely live for a couple of weeks and perhaps more, and her permission was asked as to the use of the antitoxic serum, as her condition offered but little hope. She consented, and was given an inoculation of five c.c. Marmorek's serum on the thirty-fourth day after confinement, and another the next day, neither of which seemed to exercise any effect upon the symptoms. This woman died thirty-six hours after the second inoculation with what seemed to be super-intoxication. There was no exaggeration of the cough, no very material increase of respirations; and in fact no symptoms whatever to show that anything had complicated the disease outside of that which could be attributed to the influence of the serum. In this case there seems but little doubt that this patient's death was accelerated by

the use of the serum. However, this would be but another argument in favour of the powerful anti-toxic properties of the serum, for as we know, when we use the very potent anti-diphtheritic serum too late in the disease, undoubted symptoms of super-intoxication assert themselves.

ARE THE EFFECTS OF THE SERUM LASTING?

Our observations do not extend over a sufficiently long period of time to be able to answer this question definitely, but we may refer to a case reported early in May,[1] in which the physical signs had entirely disappeared after 30 inoculations, while what little expectoration still persisted was free from bacilli, yet this patient two months after we reported upon her condition as being tantamount to an absolute cure, reveals to us the presence of bacilli in the sputum and some slight indication of the return of the disease at the original spot. This observation almost has the value of a controlled experiment, and we intend to further watch the symptoms, treat this patient again with the serum, note and publish the results. A valuable inference may be drawn also from this, and it is that now that we have fair evidence that we possess an anti-toxic serum capable of conferring passive immunity, we have every reason to believe that it can be further made use of to protect human beings while under treatment with bacillary extracts of the tuberculin group in attempting to make the human organism under treatment produce its own anti-toxine, as well as its bactericidal humours. We are now attempting that form of treatment, and may be able to publish some interesting observations in the near future.

CLINICAL OBSERVATIONS ON GUINEA-PIGS INOCULATED WITH TUBERCULOSIS AND TREATED WITH CURRENTS OF HIGH FREQUENCY.

BY

CHAS. H. HIGGINS, B.S., D.V.S.,

Pathologist to Health of Animals Service, Dominion of Canada.

AND

G. P. GIRDWOOD, M.D., F.R.S.C., F.I.C., ETC.

Emeritus Professor In Chemistry, McGill Medical Faculty.

When in London, England, in 1901, in the month of July, I had the pleasure of meeting Dr. Chisholm Williams, and seeing his method of treating consumption by the high frequency, high potential, delivered from a Dean and Ondin resonator. I procured one and having brought it out I have been using it in the treatment of disease. It is claimed for this method of treatment that it increases metabolic change in the

[1] Lemieux and Richer, L'Union Medicale, May, 1904.

body, increases the exhalation of carbon dioxide from the lungs, increases the amount of urea secreted, and decreases that of uric acid, that it also increases perspiration. It is also claimed that in consumptions, the first action is to increase the fever every afternoon for a week and during that time the number of bacilli increases enormously, and after that time the bacilli clump together and become fewer in number, staining badly, and that then they rapidly decrease in number and the temperature of the patient falls and an increase of weight from one to two pounds a week takes place. [1]

I thought that having the apparatus I should like to try the truth of these claims as applied to guinea-pigs inoculated with tuberculosis. I asked my friend Dr. C. H. Higgins if he would assist me to carry out these experiments which he acquiesced in doing at once, and the result to the dozen guinea-pigs which he inoculated with tuberculosis are recorded in the admirable account he gives herewith of the records taken. The method of obtaining and applying the electricity was as follows:— A shallow box with a tin bottom attached to one wire from resonator so that the six guinea-pigs must be in direct contact with one terminal. A lead plate, any other metal would do as well, but it happened to be handy, was connected with the other terminal wire. The current used was derived from an 18 inch spark induction coil made by Millar, of Hatton Garden, London, excited by a direct current of 110 volts and interrupted by a Dean mercury break. During the working of the coil five amperes and from 90 to 100 volts were recorded by ammeter and volt meter. The wires from the terminals of the secondary of the coils were attached to the insides of two leaden jars, one to either terminal, and a discharging rod attached to each inside plate and adjusted so as to give 1½ inch spark. The discharge from the outsides was passed through a coil of copper wire of one foot diameter and of ten turns, only seven of these turns being used; a shunt wire, taken from each of the wires attached to the outside of the jars, was taken to each of the metallic plates, forming, the one the bottom of the cage, and the other placed on the top of cap with a space of three inches of air over the guinea-pigs as the dielectric. The treatment was commenced on the afternoon of March 14th, and a dose of 10 minutes given at a time, after that date 10 minutes treatment was given morning and evening until the 14th of April. The treatment was commenced on the eighth day after inoculation and the average temperature of all was 102.6. F. There were 12 animals altogether inoculated and of these, two that were not treated died of septic conditions, and were therefore not counted in

[1] Dr. Chisholm Williams on high frequency currents in certain disease. Relman & Co., 1903, New York and London.

the result. Of the six that were treated one died from an accidental injury to the rectum in taking the temperature, hence the experiments were limited to four not treated and to five that were treated. All the animals were kept under precisely the same treatment as to life, conditions of cages and food, the only difference being, that the five had treatment by High Frequency and the other four had no treatment. The following table shows the result:

	Untreated.				Treated.		
Average weight at inoculation		265 grammes				326 grammes	
	Temp.				Temp.		
8th day	102.6	260	"		102.9	323	"
16th "	103.	205	"	1 died 17th	103.5	327	"
24th "	104.4	235	"	1 " 22nd	104.8	263	"
32nd "	103.4	250	"	1 " 27th	104.2	245	"
40th "	104.	237	"		102.5	277	"
48th "	103.	200	"	died	103.9	250	"

Of the treated:—One died 38th day; one died 39th day; one died 41st day; one died 46th day; one killed 48th day.

Of these guinea-pigs, of those not treated only one lived 48 days after inoculation, the first to succumb, died on the 17th day, the second on the 22nd day and the third on the 27th day. Of the five under treatment:

	Treated.	Untreated.
The first to succomb died on the	38th day	17th day
The second " "	39th "	22nd "
The third " "	41st "	27th "
The fourth " "	46th "	48th "
Whilst the 6th was killed on the	48th " average 42.4 days	average 28.5

So that the treatment prolonged apparently the lives of all those treated, the fifth which survived to the 48th day and was choloformed on that day, might have lived much longer, but under the existing circumstances at the time he could not be longer watched. But with the four not treated they all died within the 48 days, and three of them by the 27th, or 11 days before the first of those that were treated.

The action on the bacilli is recorded by my friend Dr. Higgins, to whom I am indebted for this information, and to whose report I must refer.

I have shown elsewhere that the force derived from this method of obtaining high frequency, oscilating discharges are useful in the treatment of tubercular lupus, that Finsen light also does the same and that X-Rays also do the same. Thus we find, that these three sources of energy produce a like effect on this disease, what is it that these three agencies possess in common which enables them to produce a similar result?

In conducting these experiments, the necessity of having data strictly comparable was ever in view, and in their pursuit, the treated and un-

treated animals were placed under as nearly identical conditions as it was possible to obtain. The animals used were taken from the breeding pens, all being in a perfectly healthy state. They were not as large as one would wish for such experiments, it being conceded that in testing the virulence of varieties of tubercle cultures it is essential to employ guinea-pigs weighing 800 grammes or thereabouts. While these experiments are not, strictly speaking, a testing of virulence, but of creating through their use an attenuation or destruction of the tubercle bacillus within the system of the animal, through the use of the electrical currents in question.

The source of the material with which the animals were inoculated, was a tuberculous steer, killed for beef purposes, the carcass being condemned at a Montreal abbatoir. Nodules from the pleura costalis were used on a series of four guinea-pigs, one of which later furnished the material for the animals that were placed under observation and electrical treatment. The guinea-pig furnishing the material for the inoculation of our observation animals, died of a generalized tuberculosis thirty days after inoculation. The three other guinea-pigs inoculated on the same date with the material in question died in 32, 33 ,and 35 days respectively, and in each case a generalized tuberculosis was revealed at the autopsy. The method of inoculation, in all of the animals above referred to, was subcutaneous, a pocket being formed in the flank region by drawing a fold of skin, cutting it across, and, with a small blunt instrument, tearing away the connective tissue, thus opening a space sufficiently large to admit a piece of tuberculous tissue about one-eighth inch cube.

Microscopical Examination of Blood and Pus.

As is already stated, nodules from the pleura costalis were used on the first four animals, while in the inoculation of the 12 selected for experiments here recorded, portions of the liver were inserted in the subcutaneous pockets formed. These 12 animals were kept together in a large cage up to the time of the commencement of the treatment. Two of these animals died from septicæmia within a week from the date of inoculation, a third pig died seven days after the commencement of the treatment, (the 17th day of the disease), from rupture of the rectum and subsequently peritonitis occasioned by an accident in taking the temperature.

The above is a brief statement of the source of the material together with that of the animals and their mode of preparation for the experiments in hand.

On the 10th day of the disease (March 14th, 1902), they were taken

for their first treatment to the Royal Victoria Hospital, where they were subsequently quartered during the entire time of observation. At the commencement of the treatment the guinea-pigs were divided and kept separately but not isolated in individual cages, there simply being a division of the treated from the untreated. The treatment consisted in exposing the animals for 10 minutes daily to the effects of the electrical currents. Commencing with the 11th day, the daily exposure was increased to 20 minutes, the time being divided into 10 minute intervals at 9.30 A.M. and 5.30 P.M. The manner of making the exposure was very simple. A box was constructed with a tin bottom and a slat top, the height being such that an animal could not get his feet out of contact with the tin bottom by crowding. Over the top of this box was placed a piece of sheet lead of sufficient size to completely cover the animals enclosed, the arrangement being such that this sheet was supported a sufficient distance from the backs of the animals to prevent accidental contact. The two poles of the electrical apparatus were connected, one with the tin bottom of the box and the other with the sheet of lead covering the animals. All the animals were in this manner equally exposed to the effects of the electrical currents.

The weights of all the animals were taken once daily and the temperatures of those under treatment were taken in the morning and in the afternoon previous to their exposure, while the temperature of the untreated were taken but once daily and then in the morning. Both treated and untreated animals received at all times similar food materials and the same attention was observed in cleansing and disinfecting their respective cages.

Clinical Observations of the Treated Animals.

The variations in the temperature were marked and conform to variations noted by Dr. Chisholm Williams[2] in his experiments upon the human being. The temperature of all the animals were normal in the morning, with a rise in the afternoon varying from one, to two and two-tenths degrees Farenheit. As the treatment progressed there was also an elevated temperature in the morning above the normal, but in a few instances only was it higher than the point reached in the afternoon of the same day. In these temperature elevations, while the variations between the morning and evening were considerable, it is noted that there is a gradual temperature curve which at first ascends then gradually recedes, but in no instance did it approach the normal temperature or that which was constant before the commencement of

[2] The treatment of Phthisis by means of Electrical Currents of High Frequency and High Potential. (Chisholm Williams, F.R.C.S., Ed. Etc.). British Congress of Tuberculosis, 1901.

the exposure of these animals to the electrical currents. The continued manifestation of a febrile condition cannot be attributed to the electrical treatment the animals were receiving, for, it is but natural to have this elevated temperature in acute tuberculosis; but the rise occurring constantly, eight hours more or less after exposure to a certain form of treatment, is unusual and it is to this rise that attention is particularly drawn.

The weights of these animals fluctuated in a somewhat similar manner to their temperature. After inoculation, during the 10 days prior to the commencement of the treatment the weights of these animals decreased. During the first few days of exposure to the currents of high frequency, the weights of the animals continued to fall. This fall was gradual, being followed by a gradual rise, which in every case attained its maximum on the 8th day of treatment or the 18th day of the disease. Reference to the table will give detailed information as to the fluctuations in weights, also variations in temperatures together with the number of days they lived.

Another point worthy of mention in connexion with the treated animals is the abscess formed at the point of inoculation. The abscess formed, broke externally, discharging the characteristic pus of a tubercular abscess, but in these treated animals a process unlike that seen under ordinary circumstances was noted. There was a gradual healing of the wound instead of an extension. During this healing process the pus was less watery than usual, new granulations were observed and in two cases the abscesses healed. After this healing process, pus again formed, the external wall becoming very thin and there was a total enucleation of the abscess. It is unfortunate that the dates of this occurrence in these two animals were not noted, nor the dates of the cessation of the discharge and the closing of the abscess wound. The enucleation of the abscess was noted by the attendant in charge, but the healed lesions together with the fresh granulations were seen by the writer.

Unforeseen circumstances necessitated the destruction of the longest lived animal, designated as No. 19. While lesions of a generalized character were found at the autopsy, it is more than probable that had it been possible to continue the treatment this animal would have lived for quite a number of days.

Clinical Observations of the Untreated Animals.

The guinea-pigs used for checking the results in the treatment of tuberculosis by currents of high frequency, presented nothing out of the ordinary during the course of the disease. There was a gradual

rise in temperature, as will be seen by reference to the tabulated data concerning these animals. The elevation in temperature persisted, with more or less regularity, up to the time of their deaths. The weights of these animals fluctuated, gradually becoming less and less towards the fatal issue. The animals died in 17, 22, 27 and 48 days respectively. Why No. 25 lived so much longer than the others is unexplained, the course of the disease being typical, though not as acute as in the other instances.

Examinations were made daily of blood smears, and as soon as the abscesses commenced discharging, smears of the pus were made and examined. These examinations were not made in the case of each individual animal, but two animals from each series, the treated and untreated, were selected. In no instance were tubercle bacilli detected in the smears of blood, from either series of animals, although a careful search was made daily, of two smears from each animal from which material was taken.

In the pus, bacilli were present in both series. Nothing characteristic was noted in connexion with the bacilli seen in the pus from the untreated animals, either in method of taking and retaining the stain nor in the grouping or shape of the bacilli.

With the treated animals, the changes in the grouping of the bacilli in the pus, together with the manner in which the stain was taken and held were peculiar. There was also a far greater number of bacilli present in the smear than is usually seen, increasing as the treatment progressed. The first change noted occurred on the eighth day of treatment or the eighteenth day of the disease. At this time the clumps of bacilli were noted together with the giving up of the stain [3] by certain bacilli while others seemed not to have taken the stain at all. While the clumping was first noted at this time, this characteristic was not as marked as it was a few days later, from which time it continued to remain constant throughout the course of the disease. On and after the 12th day of treatment (22nd day of disease), the decolorizing was more easily accomplished, and provided the Gabbet's blue was used the usual length of time, the bacilli were relieved of the greater part, if not all, of their red dye. By experiment it was found that in order to have the bacilli retain their characteristic stain, it was necessary to reduce the time of exposure to the effects of this decolorizing agent to three-fourths the usual period. Twenty per cent. solution of nitric and hydrochloric acids were used with similar results in decolorizing.

[3] The stains used in all of the examinations were, Zeihl-Neilson's carbol-fuchsin and Gabbet's blue. A sufficient amount of staining material was freshly prepared for this work that variations in the staining properties of the bacilli might be carefully studied.

In some of the specimens of pus the bacilli were decidedly shorter and thicker than normal. These forms have been noted only in films, from the animals treated by the electrical currents and not in connexion with any investigations on other tuberculoses. While these stumpy forms were not numerous, they were fairly constant in the preparations of pus from the animals in question. Another peculiarity noted with the films, was the consistency of the pus and the nature of the film produced. Films made from the pus of untreated animals were very even, while those made from the pus of animals receiving treatment were uneven and streaked, it being more difficult to obtain a preparation suitable for microscopic examination.

It may be well to mention that the examination of the slides both blood and pus smears, were carried out without the knowledge, at the time of the examination, as to whether a given slide came from a treated animal or one that was untreated. The slides were taken and numbered by the attendant, comparisons not being made till the completion of the microscopic examinations, thus avoiding any personal prejudice for or against the experiments.

Pathological Findings.

The untreated guinea-pigs presented the usual changes, noted in cases of acute miliary tuberculosis, from the incipient tubercular infection to the caseating nodules. These changes were noted particularly in the lungs, liver, spleen, and lymphatic glands throughout the system The superficial lymphatic glands particularly were affected, indicating that the infection was mainly carried through the lymph channels. The lesions in the treated animals presented a similarity in the involvement of the same organs and lymphatic system, but the lesions were more clearly defined from the healthy tissue, especially was this true in the liver and spleen. Caseation was not a marked feature of the lesions. Microscopically, this definition between the diseased and healthy tissue is also marked in the various organs, indicating that agencies, other than the normal resisting power of the individual, have been at work in the effort to aid nature in the struggle between the bacilli and the body cells.

The arrangement of the bacilli in the necrotic foci is peculiar. As usual, they are almost entirely absent in the centre of these areas, while near the edge they are seen in great numbers. Wherever they are seen clumps of various shapes are noted, containing from 10 to 30 individual bacilli. While the clumping is a feature of the bacilli in the tissue as well as in the discharging abscess, degeneration forms are not as prominent nor as numerous in the tissue lesions. The staining qualities of

these bacilli, whether free or in clumps, is as a rule good, though occasionaly some are seen which take the stain badly. In the staining it must be borne in mind, that it is much more difficult to determine staining peculiarities recorded on a time limit, in the tissue than on smears, hence it is almost impossible to obtain comparable results between the pus and tissue bacilli.

Summary.

These experiments aside from being very interesting, teach, that these high frequency electrical currents exert some beneficial influence in the effort of the system to overcome the effects usually produced in animals infected with the bacillus tuberculosis. We have an average life in the treated animals of 42.4 days; while with those in which the disease was allowed to run its course we have as the average life 28.5 days. This gives us a period of 13.8 days in favour of the treatment

In these estimations the two animals dying of septicæmia are not reckoned, nor is the one which met with an accident during manipulation.

To say the least, the results here recorded are very encouraging, the more so when it is considered that the germ used in infecting the experimental animals was of a very virulent type, in fact, much more so than would be the case in the ordinary human infection. Again, the disease was pretty well advanced at the commencement of the treatment, as is evidenced not only by the length of life in the untreated animals but also by the animals inoculated preliminary to the experiments and from which the infective agent was obtained and also by the temperature records.

These experiments are worthy of repetition with a germ of a less virulent type, conforming to that usually found in cases of human tuberculosis. The period of exposure could with advantage be extended to 30 minutes daily and given at one sitting, allowing the animals under observation, the remainder of the 24 hours to recuperate from its effects. As we look back and study the records, it seems that the best results cannot be obtained by a treatment in the afternoon when the temperature is at its height and the functions of the animal are already in a chaotic state.

We hope to pursue these investigations in the near future, and will benefit by the experience already gained in conducting these experiments here recorded.

TABLE OF WEIGHTS AND TEMPERATURES OF TREATED GUINEA-PIGS.

	DESIGNATION OF ANIMALS.									
	15		16		18		19		20	
	Temp.	Wt.	Temp.	Wt	Temp.	Wt	Temp.	Wt.	Temp.	Wt.
At inoculation.....	a.m.	357	.....	378	.....	320	.....	308	.....	270
1st day.....a.m.	.....	360	.....	400	.....	310	.....	307	.....	262
2nd " ..... "	.....	355	.....	405	.....	305	.....	310	.....	256
3rd " ..... "	.....	355	.....	382	.....	310	.....	310	.....	260
4th " ..... "	.....	355	.....	377	.....	297	.....	320	.....	260
5th " ..... "	.....	355	.....	380	.....	300	.....	315	.....	260
6th " ..... "	.....	355	.....	377	.....	305	.....	310	.....	260
7th " ..... "	.....	355	.....	375	.....	310	.....	310	.....	265
8th " ..... "	103.2	360	103.3	375	102.2	315	102.8	325	103.	265
9th " ..... "	103.	350	103.2	375	102.	305	103.	325	103.	260
Treatment commenced										
10th " ..... "	103.	345	103.	372	102.	300	103.2	327	102.	220
11th " ..... "	103.	305	102.4	335	101.6	270	102.6	270	103.	...
.....p.m.	103.6	....	103.6	....	103.4	....	104.	....	103.4	....
12th " .....a.m.	103.4	300	103.	310	102.8	255	102.4	260	102.2	210
.....p.m.	103.	....	104.	....	104.4	....	103.2	....	103.	....
13th " .....a.m.	103.2	295	102.2	320	103.	250	102.1	245	102.	220
.....p.m.	104.2	....	103.4	....	103.4	....	104.2	....	103.	....
14th " .....a.m.	103.	295	103.6	310	102.8	255	102.2	250	102.6	205
.....p.m.	105	....	104.	....	103.4	....	103.8	....	103.4	....
15th " .....a.m.	103.	290	103.4	320	102.6	250	102.	245	102.4	200
.....p.m.	104.6	....	104.	....	103.4	....	104.4	....	103.	....
16th " .....a.m.	103.	285	103.	305	102.6	255	102.	240	102.2	200
.....p.m.	104.6	....	104.6	....	102 4	....	103.	....	103.4	....
17th " .....a.m.	104.4	290	104.6	320	103.8	265	104.4	255	103.1	205
.....p.m.	104.4	....	104.4	....	104.8	....	104.2	....	104.	....
18th " .....a.m.	105.2	320	104.4	350	105.	280	104.3	275	104.4	235
.....p.m.	105.8	....	105.	....	104.6	....	104.2	....	104.6	....
19th " .....a.m.	105.8	305	105.	340	104.6	275	104.4	270	104.	230
.....p.m.	105.6	....	105.2	....	105.6	....	104.8	....	104.6	....
20th " .....a.m.	104.2	290	105.	330	104.6	275	104.4	265	104.2	225
.....p.m.	104.6	....	105.	....	104.6	....	104.2	....	105.	....
21st " .....a.m.	103.6	295	105.	320	104.6	270	104.6	265	104.	225
.....p.m.	103.8	....	105.	....	105.	....	104.	....	104.	....
22nd day.....a.m.	102.	270	102.6	295	101.4	250	102.	245	101.6	210
.....p.m.	104.	....	105.	....	104.	....	104.	....	104.8	....
23rd " .....a.m.	104.	290	104.	305	103.	255	103.4	255	103.8	210
.....p.m.	103.6	....	104.8	....	104.2	....	104.6	....	104.6	....
24th " .....a.m.	103.	290	104.4	310	104.	255	104.	250	103.6	210
.....p.m.	104.6	....	104.6	....	105.	....	105.	....	105.	....
25th " .....a.m.	103.6	285	105.	310	104.	255	104.6	250	104.2	210
.....p.m.	104.	....	105.	....	103.	....	103.2	....	103.	....
26th " .....a.m.	103.6	295	103.8	300	103.	250	104.2	250	103.3	200
.....p.m.	104.	....	104.6	....	104.	....	104.6	....	104.3	....
27th " .....a.m.	103.	290	103.4	305	102.6	245	103.4	250	103.2	205
.....p.m.	104.	....	105.	....	104.	....	105.	....	103.6	...
28th " .....a.m.	103.6	300	105.	315	103.4	255	103.6	260	102.8	210
.....p.m.	104.	....	104.6	....	103.8	....	104.4	....	104.	..
29th " .....a.m.	104.6	280	104.	290	103.	245	103.6	245	103.6	200
.....p.m.	104.	....	104.6	....	104.	....	104	....	104 6	.. .

TABLE OF WEIGHTS AND TEMPERATURES OF TREATED GUINEAPIGS.
(Continued.)

	DESIGNATION OF ANIMALS.									
	15		16		18		19		20	
	Temp.	Wt.	Temp.	Wt.	Temp.	Wt.	Temp.	Wt.	Temp.	Wt.
30th " .....a.m.	103.3	275	103.	305	102.8	250	103.6	250	103.	205
.....p.m.	104.	....	104.	....	104.	....	104.	....	103.6	....
31st day.....a.m.	104.3	290	105.	310	103.6	255	104.	270	104.	220
.....p.m.	103.2	....	104.	....	103.6	....	103.4	....	104.6	....
32nd " .....a.m.	104.2	280	104.6	295	103.6	240	103.	255	104.6	205
.....p.m.	104.	....	104.	....	104.8	....	104.	....	104.2	....
33rd " .....a.m.	103.8	280	103.4	300	103.6	240	103.6	260	104.	205
.....p.m.	104.	....	104.2	....	104.4	....	104.6	....	104.2	....
34th " .....a.m.	104.4	285	104.6	305	104.	245	103.6	265	104.	210
.....p.m.	103.6	....	104.	....	103.6	....	104.4	....	103.6	....
35th " .....a.m.	104.	295	104.4	285	104.	285	104.	250	104.2	200
.....p.m.	103.6	....	103.6	....	103.	....	103.6	....	103.	....
36th " .....a.m.	104.2	275	104.2	310	100.6	225	104.	260	104.4	195
.....p.m.	104.6	....	104.2	....	104.	....	104.6	....	104.2	....
37th " .....a.m.	104.4	255	104.6	300	103.4	255	103.4	255	104.2	190
.....p.m.	104.	....	104.2	....	.....	....	104.3	....	104.	....
38th " .....a.m.	104.	290	104.2	320	dead	195	104.	275	104.6	200
.....p.m.	104.	....	104.3	....	.....	....	104.4	....	104.	....
39th " .....a.m.	103.	265	104.	290	.....	....	104.	255	dead	175
.....p.m.	103.	....	104.6	....	.....	....	103.6	....	.....	....
40th " .....a.m.	104.	280	103.6	295	.....	....	104.1	180	.....	....
.....p.m.	103.	....	101.4	....	.....	....	103.4	....	.....	....
41st " .....a.m.	102.	215	dead	265	.....	....	102.6	215	.....	....
.....p.m.	100.6	....	.....	....	.....	....	102.2	....	.....	....
42nd " .....a.m.	104.4	265	.....	....	.....	....	102.4	265	.....	....
.....p.m.	104.4	....	.....	....	.....	....	104.4	....	.....	....
43rd " .....a.m.	103.6	250	.....	....	.....	....	104.	260	.....	....
.....p.m.	.....	....	.....	....	.....	....	103.6	....	.....	....
44th " .....a.m.	.....	....	.....	....	.....	....	.....	....	.....	....
.....p.m.	103.4	245	.....	....	.....	....	104.2	260	.....	....
45th " .....p.m.	103.	230	.....	....	.....	....	.....	235	.....	....
46th " .....a.m.	103.	240	.....	....	.....	....	104.	250	.....	....
.....p.m.	dead	215	.....	....	.....	....	103.	....	.....	....
47th "	.....	....	.....	....	.....	....	.....	....	.....	....
48th "	.....	....	.....	....	.....	....	chloroform		ed	

No. 17 died as the result of an accident in taking the temperature through rupture of the rectum and subsequent peritonitis.

TABLE OF WEIGHTS AND TEMPERATURES OF UNTREATED GUINEA-PIGS

	DESIGNATION OF ANIMALS.							
	20		22		24		25	
	Temp.	Wt.	Temp.	Wt.	Temp.	Wt.	Temp.	Wt.
At inoculation		237		370		202		252
1st day a.m.		235		365		210		250
2nd " "		235		370		215		245
3rd " "		225		358		210		245
4th " "		237		355		202		245
5th " "		235		355		200		245
6th " "		235		335		205		245
7th " "		240		320		210		245
6th " "	102.6	250	103.	345	103.	205	102.2	240
9th " "	102.6	240	103.	325	103.	212	102.2	240
10th " "	103.	235	102.8	315	103.4	215	102.2	235
11th " "	102.6	225	103.6	315	102.8	190	103.	225
12th " "	102.8	200	104.	285	102.4	165	103.4	200
13th " "	102.4	210	104.2	270	102.6	165	103.	200
14th " "	102.6	210	104.6	260	103.	165	103.	200
15th " "	102.6	205	104.	260	102.4	165	102.3	200
16th " "	102,4	200	104.2	255	101.	160	102.6	205
17th " "	105.2	220	dead	235	103.	160	104.2	220
18th " "	105.2	230			104.6	175	104.6	245
19th " "	105.	240			104.6	160	104.	245
20th " "	104.8	225			104.2	165	104.2	245
21st " "	104.	225			103.8	165	103.6	250
22nd " "	104.6	205			98.4	150	102.6	235
23rd " "	105.2	215			died on		104.4	250
24th " "	104.6	215			22nd		104.	255
25th " "	104.6	210			day		104.6	255
26th " "	98.	195					103.6	245
27th " "	dead	180					104.	250
28th " "							104.2	250
29th " "							104.	250
30th " "							104.6	250
31st " "							104.6	265
32nd " "							103.8	250
33rd " "							103.4	255
34th " "							105.	255
35th " "							104.6	245
36th " "							104.2	245
37th " "							105.	250
38th " "							104.6	255
39th " "							103.6	230
40th " "							104.	237
41st " "							104.6	235
42nd " "							104.4	240
43rd " "							102.	
44th " "								
45th " p.m.							102.8	230
46th " "							102.4	230
47th " "							103.	230
48th " "							dead	200

Nos. 23 and 26 died of septicæmia within a week from the time of inoculation.

PAPILLOMA OF THE LARYNX.—HIGH TRACHEOTOMY, THYROTOMY, RECOVERY.

BY

ROBERT H. CRAIG, M.D.

Laryngologist, Western General Hospital,

Lecturer in Laryngology, University of Bishop's College, Montreal.

A. B., female, aged 7, was brough to my office by her mother on January 17th, 1904, to consult me regarding her daughter's throat. The mother first noticed in November 1903, that the child's voice was husky. The huskiness became rapidly pronounced, and six weeks after it had developed the patient could only speak in a whisper. The breathing on exertion, such as caused by running upstairs, would become quite laboured and stridulous.

Examination revealed a healthy child with the exception of the upper respiratory tract. There was marked atrophic rhinitis with ozæna. The pharnyx presented a fairly normal appearance considering the nasal condition. The larynx showed a cauliflower-like growth in its anterior half. The growth was sessile and appeared to originate from the mucosa at the angle formed at the junction of the wings of the thyroid cartilage, and filled the anterior two-thirds of the glottis. The laryngoscope did not reveal any subglottic involvement. I prescribed a spray of alcohol, commencing with a fifty per cent. solution and gradually increasing to full strength.

I saw the patient three or four time a week for five weeks and endeavoured to gain her confidence, in order that the introduction of instruments into the larynx might be allowed. I succeeded a great many times in cocainizing the larynx, but unfortunately, the child would not permit the introduction of a snare, and as the growth was rapidly filling up the glottis and the breathing was becoming much embarrassed I advised a thyrotomy.

On the seventh of March, with Dr. Springle's and Irving's assistance, I did a thyrotomy following a high tracheotomy. On opening the larynx, I found that the growth was of a sessile nature, it presented a papillomatous appearance and occupied the whole anterior angle of the larynx. The anterior third of the right vocal cord had completely disappeared, and there was a punched-out area about the size of a ten cent piece involving the mucosa, immediately above the level of the destroyed vocal cord. I removed the growth freely with the curette, snare and scissors and cauterized the base and ulcerated area thoroughly with the galvano-cautery. The thyroid cartilage was approrimated carefully with chromicized catgut and the skin incision with silk. Five days after the operation, as the skin and cartilaginous incision showed

evidence of sloughing, I removed the sutures and allowed the wound to heal by granulation. The suppuration was, in all probability, caused by the extensive sloughing following the cauterization. The after treatment was similar to that adopted after tracheotomy, only complicated by the laryngeal condition; consequently, the tracheotomy tube required very careful attention.

I commenced on the eighth day to encourage the patient to breathe through the larynx by covering the tracheotomy wound with gauze, and on the twelfth day the tube was removed and left out for twenty-four hours. On the fourteenth day I left the tube out permanently. After the tube was dispensed with the larynx was sprayed with an antiseptic oil spray four times a day. One month after the operation the larynx presented a fairly normal appearance; a fibrous band had replaced the anterior third of the right vocal cord, but unfortunately, this band is adherent to the true cord of the opposite side, consequently, the voice has not returned, but the breathing is nearly normal. Six weeks after the operation there was very little change in the larynx with the exception that there was a slight recurrence of the papillomatous growth on the anterior half of the right ventricular band and on the left posterior third of the left ary-epiglottic fold. I at once prescribed a spray of formalin 1 in 2000, gradually increasing the strength to 1 in 800, to be used as a laryngeal spray twice daily. On the 15th of June, the mucosa of the larynx presented an almost normal appearance. The voice is improving slowly, the breathing is perfect, the patient can whisper and cry, and I hope that the removal of the synechia at a later date will bring about a fairly complete restoration of the voice.

In the treatment of papillomata of the larynx there are many points of vital interest to be considered. In this connexion, H. Lambert Lack has referred, in the *International Medical Annual* for 1904, to an instructive case reported by Dundas Grant. The patient was a young woman, 22 years of age, with congenital papilloma of the larynx. She had had a tracheotomy performed at the age of four months and had worn a tube continuously ever since. The case, Lack states, shows the uselessness of tracheotomy as a curative measure for papillomata of the larynx as recommended by Hunter Mackenzie. Grant removed the growth and subsequently the tube. Nevertheless, I consider one is only justified in opening the larynx after all other modes of treatment have been exhausted, on account of the possible dangers of the operation and the complications which frequently ensue, such as loss of power of vocalization. However, I think the consensus of modern opinion is in favour of a thyrotomy, when the growth cannot be removed by the

intralaryngeal route, and it seems to me, that such a proceeding is more scientific and philosophical than resorting to a temporary alleviation of the trouble by tracheotomy.

In my case the inability, on account of the age of the child, to remove the growth by the intralaryngeal route, and its rapid progress causing marked difficulty in breathing compelled me to adopt radical measures. Microscopic examination showed the growth to be papillomatous.

THOMAS SYDENHAM.

BY

W. F. Hamilton, M.D.,

Montreal.

To-night, Gentlemen, it is my pleasure and duty to thank you for the honour you did me a year ago in electing me as your honorary president.

It is most gratifying to me to see this Society in such a flourishing condition, the attendance so good and the class of work done of such a high order. In noting the progress made in the past fourteen years, as it becomes me to do at this time, I have a keen sense of satisfaction and delight. It seems to me that you must, without a show of self-praise, regard the increased average attendance, the high quality and the quantity of work done in following out the programme of the various meetings, and the highly successful quarter-century celebration, as distinctive marks won by your Society this year. Those of you on whom, in the order of succession, the work must soon fall will need to give diligence to your efforts that 1904-05 may see no falling behind.

A review of the programme for the session now closing shows the variety of subjects brought before you—Clinical, both medical and surgical; Experimental; Pathological and Physiological. Your attention, too, has been directed to the Past, and some of your members have striven to correct "man's worst deed,

> "To let the things that have been run to waste,
> "And the unmeaning Present sink the Past."

Let me here urge upon you the cultivation of a taste for the study of the old Masters, taking at least two each year, becoming acquainted with their works and gaining an estimate of their influence upon medical thought, and perhaps better still, gaining some knowledge of their personality. There is now an abundance of matter accessible to all of us.

Address before McGill Undergraduates' Medical Society, April 15th, 1904.

THOMAS SYDENHAM M.D.

The Manor House of Wyrnford Eagle in the County of Dorset, built by Thomas Sydenham's father in the year. 1630.
Sydenham was born at Wyrnford Eagle 1624 & here his boyhood was passed.
Presented to the Library. by Sir W. Osler. 1902.

Many of the early medical works, in Latin, may now be found in English translations and the lives of many of the greatest French, German and Italian teachers find a place in most libraries. The desire to prevent in some measure the running to waste of the "things that have been" in the development of English medicine, led to the choice of one of its representative men for our study this evening.

In closing his address at the opening of the session in this Faculty, September 21st, 1899, Dr. Osler said, "and, finally, Gentlemen, remember that you are here, not to be made chemists or physiologists, or anatomists, but to learn how to recognize and treat disease, how to become practical physicians."

It is to the "Prince of practical physicians" that I would formally, and I trust more or less familiarly, introduce you this evening, assured from my study of the life and works of Thomas Sydenham that a careful consideration of this Master cannot fail to inspire all earnest students of medicine.

Two hundred and eighty years ago this very week (Monday the 11th inst.) in a little Dorsetshire village in England, called (in the Domesday Book, Wynfort), Wynford Eagle, Thomas Sydenham was born. Payne describes his father's house as follows:—

"The picturesque, grey, ivy-grown old house is still standing little altered from its original state. It lies in a hollow sheltered by the downs and upland pastures, and is a pleasing specimen of a small seventeenth century manor-house. The front is composed, as usual, of three parts, each surmounted by a gable, the projecting central block contains a recessed porch with stone benches. The wings recede and are pierced with old mullioned windows wrought in very hard stone and perfectly preserved. The whole building is solidly constructed of stone and flint. A thick growth of ivy covers the whole front." . . . . . .

The Sydenham family, described as being both parliamentary and Puritan, lived near Dorchester, a strongly Puritan section of England, and in this atmosphere the "English Hippocrates" was born and bred. Payne, his most recent and most worthy biographer, remarks that "we cannot appreciate his whole character and career without remembering that he was imbued with the intense earnestness of the Puritans, and was quite prepared, in opposition to authority of any kind, to be called if necessary a rebel." With a word we must pass over his family relations. Among those who lived before him there were a judge, Bishop, Knights, Members of Parliament, and later, colonels and statesmen. In the 17th century, a noted Anglican divine; in the 18th century a learned Platonist, a naturalist and a learned and indefatigable editor.

But little is definitely known of the boy Sydenham until his 18th

year when he went to Magdalen Hall, Oxford. Scarcely had he entered upon the student's career when the civil war broke out. For some time men had protested against the absolute power of the King, and now the crisis came, and Charles the First and Parliament were at war, Sydenham took up arms with those against the King and from the records it would appear that his services were rendered in his native county and vicinity. He was a good soldier. He suffered the loss of two brothers; his mother was also killed in the war and he himself was wounded.

The first civil war having ended in 1646, Sydenham returned shortly after to Oxford to resume his studies. On his return journey his mind was directed towards the profession of medicine. In the following quotation, written in 1676, we find these facts set forth: "It is now the thirtieth year since the time when, being on my way to London in order to go from thence to Oxford (from which the misfortunes of the first war had kept me away for some years), I had the good fortune to fall in with the most learned and honorable Dr. Thomas Coxe, who was at that time attending my brother during an illness. And then as he has been practising medicine up to the present time with great distinction, he with his well known kindness and courtesy asked me what profession I was preparing to enter now that I was resuming my interrupted studies and was come to a man's estate. I had at that time no fixed plans and was not even dreaming of the profession of medicine, but moved by the recommendation and influence of so great a man, and in some way I suppose by my own destiny, I applied myself seriously to that pursuit. . . . . After spending a few years in the University I returned to London and entered on the practice of medicine."

The granting of medical degrees in the 17th century was often a matter of patronage. In was undoubtedly so in Sydenham's case. Indeed, when the Puritan party came into possession of the University of Oxford, in 1647, there was a number of vacant fellowships and preferments to be given away, and owing to the unsettled state of the previous few years the students were not qualified to receive them, according to the regulations of the University. To get over the difficulty thus arising, convocation voted a large number of degrees, conferring them by "actual creation," with or without conditions imposed. Sydenham received the degree of Bachelor of Medicine on the 14th of April, 1648, at the age of 24. In all probability the granting of his degree at the beginning of his course served to quality Sydenham for an important preferment the following year. He was a favourite with those who dispensed patronage and although he owed to patronage his degree,

Payne remarks that "if we consider the incalculable gain to the science of medicine involved in making Sydenham a doctor, we must admit that seldom has the blind Goddess of Patronage dispensed her favours with a happier hand."

The opportunity for medical study at Oxford in those days was small indeed,—two lectures a week were read on the text of Hippocrates or Galen and there was some anatomical teaching, yet it must have been small indeed for Sir Thomas Clayton, who was Professor of Anatomy in Sydenham's time, could not bear the sight of blood without fainting. His substitute, Dr. William Petty, was an able man in this department of study. Oxford possessed no hospital facilities for clinical instruction.

In 1650, while yet in pursuit of his university studies and in the enjoyment of much favour—a Fellowship at All Souls and Senior Bursar of the College,—the war cloud again lowered over England and Scotland. Charles II. found support in Scotland and the second civil war was begun. In response to the call of duty, which was never unheeded by this strong Puritan, Sydenham offered himself for service once again along with the parliamentary party and was given a commission in the first regiment of militia, the cavalry. We cannot follow further his military career, which must have been brief. 1656 appears to be the date of his beginning practice, yet it is doubtful how earnestly he undertook this work for evidently he had some intention of following a political career as in 1658 he was an unsuccessful candidate for Cromwell's parliament. He received some political office from the Commonwealth, but the Restoration followed so speedily that (whether it was entered upon or not), it could not have been enjoyed for any length of time. At any rate, Sydenham went to France to study, in 1659, influenced doubtless by a little work published at Oxford in 1631, by a young physician of Scottish parentage, a graduate of Montpellier. This little book maintained that Montpellier occupied first place among all schools of medicine.

In 1661 he was practising in London and became a licentiate in 1663. He took his degree of Doctor in Medicine from Cambridge in 1676.

We have thus followed Thomas Sydenham to a time in his history when he established himself in London and when also he must have become fully conversant with surrounding conditions of practice. We have seen, too, how much the character of the man has been influenced by circumstances,—of both religion and politics. A glance at the times, from the standpoints of science and medicine, may help us still further in understanding how much they had to do in making Sydenham the English Hippocrates,—the "Prince of practical physicians," the glory of the English school, the great ornament of the British School of Medicine, "the doctor of contraries," "the fever curing doctor."

Before looking beyond the man, however, let us consider his personal appearance. Judged by his portraits, Sydenham was of a large and robust frame, his complexion reddish, his eyes grey, his hair first brown, then grey, worn long, in its natural state, without a wig. His features, judged by his portraits, were strong and regular. His manner is supposed to have been manly and simple, lacking doubtless many of the characteristics of the courtly physician. Payne described him as, "essentially a man of action when most physicians were men of books." There is abundant evidence to show that he gained the most complete confidence of his patients.

We have above recalled a few of the terms applied to Sydenham, and they are both descriptive and appreciative. How some of these terms came to be applied may appear from several considerations: In the early part of the 17th century Galileo emancipated, in some degree at least, human thought, introducing a spirit of mathematical enquiry and accurate reasoning. Shortly afterwards Lord Bacon pointed out certain rules to be followed in investigating material phenomena. Equally important were the advances in matters pertaining to medicine. The course of the chyle and the circulation of the blood were discovered and described, and of the structure and functions of the human body knowledge was being rapidly acquired. Cullen says that "hitherto anatomists had laboured, as we may say, only on the detached and separate parts of the economy, without perceiving the connection of the whole, or what was worse, they had the view which Galen had given to it. It was a period of change and unrest of transition."

The man who among many strong contemporaries of that transition period in the medical thought of England has most influenced it was Thomas Sydenham, and though England boasts of more illustrious names than that of Sydenham there is none holding a prouder place: It is said of him that he, in a large measure, disregarded tradition and theoretical speculations and turned to the practical and experimental investigation of natural phenomena of health and diseased conditions, and, largely influenced by Hippocrates, he engaged in his work of medical reform. He took for granted the medical system of Hippocrates which seemed to him, and many others, to have been founded upon clinical observation, while the writings of others were not thus established. He valued, perhaps above all things in medical systems, such observations, and in no system were they so abundant as in that of Hippocrates. It was this aspect of the Hippocratic system which largely influenced Sydenham's method. With him it was essential that a minute study of the disease be made before the treatment could be applied. In speaking of his method, Sydenham says: "In writing, therefore,

such a natural history of diseases every merely philosophical hypothesis should be set aside and the manifest and natural phenomena, however minute, should be noted with the utmost exactness. The usefulness of this procedure cannot be easily over-rated as compared with the subtle inquiries and trifling notions of modern writers, nor can there be a shorter, or indeed any other way, of coming at the morbific causes, or of discovering the curative indications, than by a certain perception of the peculiar symptoms. By these steps and helps it was that the father of physic, the great Hippocrates, came to excel, his theory being no more than an exact description or view of nature. He found that nature alone terminates disease, and works a cure with a few simple remedies, and often enough with no medicine at all."

Choosing as his guide the following Baconian motto, it would appear that he adhered closely to it throughout his long medical career:—"We have not to imagine, or to think out, but to find out what nature does or produces." The famous principle that "Nature cures Disease," derived from Hippocrates was adopted by Sydenham.

Kreil, a writer of the school immediately succeeding that of the contemporaries of Sydenham, stated that the knowledge of the cure of diseases, attained by a close and assiduous observation of all the appearances in the several stages of distemper was first excelled in by Hippocrates and that several of the ancients followed this method, but that none ever came so near him as the deservedly renounced Dr. Sydenham.

In delivering the Harveian ovation in the year 1727, Aburthnot first mentions Sydenham as emulating Hippocrates. It is admitted that the method of the great Greek physician was extended by his English successor or rival. He explicitly laid down the principle, as Payne says, that disease should be studied by the Natural History Method, like natural objects, without trying to explain them. He differed with those of his time in this matter, who would strive to explain by some chemical or mechanical theory the observed phenomena.

Turning now to a consideration of the kind of men immediately about him we have a yet greater contrast. There were those who conformed to the Linacre School—formal and learned scholars—the type which Linacre set in founding the College of Physicians; then the influence of Paracelsus and van Helmont's disciples was being felt. They made great pretensions to cures with infallible remedies. The civil war and Commonwealth brought not only political upheaval, but a general breaking away from tradition and authority, and with the laxity in professional restrictions, the growth of astrologers, quacks, mountebanks, empirics, nurses and midwives, and "wise women," was rapid and disheartening. The surgeon and prescribing apothecary, too,

swelled the "motley rout of competitors with whom the honest physician had to contend." Between these the formal learned scholarly physician and the mountebank stood Sydenham,—plain, rather rustic perhaps, not courtly,—a man of action, a practical student of nature seeking to find out from the natural history of the disease and its variations under different conditions the appropriate treatment to be adopted, writing plainly his observation of symptoms and ending his descriptions often with such expressions as, "so doing I avoid the chances of error and do the best for my patient." "And this in a manner is all I have found out concerning the cure of diseases up to the day on which I write, viz.: 29 Sept., 1680." In the chapter on Gout he says, "if the severe torment, the inability to move, and the other bodily ills that I have suffered for the greater part of my life, shall have the effect of producing for others, ease and freedom from pain, I shall consider that I have reaped some advantage from the afflictions of this life."

Thus one may perceive the applicability of the terms, "English Hippocrates," and the "Prince of practical physicians." The other terms have their origin in his works, more than in his methods, and to a study of those let us now turn.

The Works of Sydenham.

The following is a list of Sydenham's works:—

1666.—Methodus Curandi Febres, First edition.

1668.—Second edition of the same.

1676.—Third edition under title of Observationes Medicæ.

1680.—Epistolæ Responsoriæ.

1685.—Second edition of the same.

1686.—Schedula Monitoria.

Posthumous.

1693.—" Processus Integri.

Manuscript treatise.

Then there was a manuscript treatise entitled Theologia Rationalis.

Of Sydenham's English, Payne says: "there is no specimen which was actually prepared for the press. What has been preserved is most unattractive and somewhat difficult to understand. Yet it may be said that the style is characteristic of his age and party, abounding in rugged force and sudden outbursts of religious feeling. All the handwriting of Sydenham now known is in English. His medical works are believed to have been written in Latin by those in whose style and learning Sydenham had more confidence than in his own,—Dr. Mapleloft and Mr. Havers."

From the available evidence it seems that his first medical work was published in 1666, shortly after his return to London, from which he

absented himself on account of the plague. While most biographers condemn him for this unheroic act, Dr. Payne finds extenuating circumstances, and in his absence an opportunity to write his first medical work, which is published under the title, *Thomas Sydenham, Methodus Curandi Febres propriis observationibus superstructa.* (Thomas Sydenham's method of treating fevers, based upon his own observations.) This work went through three editions; in 1676 it appeared in a new title, "*Observationes Medicæ circa morborum, Acutorum Historiam et Curationem.*" (Medical Observations concerning the history and cure of acute diseases.) The fourth edition came out in 1685 and two editions appeared shortly after in Strasburg and Geneva. Sydenham described the Fevers of London by the years of their occurrence, for instance, the first section of his book is included under five chapters:—

1. On acute diseases in general.
2. On epidemic diseases.
3. The epidemic constitution of the years, 1661-62-63-64.
4. The continued fevers of 1661-62-63-64.
5. The intermittent fevers of 1661-62-63-64.

This is a type of the headings or of his divisions.

In later editions of his book he takes up:—

The Pestilental Fevers and Plague of 1665, 1666.
Regular Smallpox during certain years.
Cholera Morbus in 1669.
Dysentery of certain years.
Measles of the year 1670.
Bilious Colic of the years 1670-71-72.
Epidemic coughs of 1676, with,
Pleurisy,
Peri-pneumonia,
Intercurrent fevers,
Scarlet Fever,
Pleurisy,
Bastard Peri-pneumonia,
Rheumatism,
Erysipelatous fever,
Quinsy,

While this work will doubtless remain one of the greatest medical classics, yet it is most difficult to identify the fevers described.

It is interesting to note his views on the pathology of pleurisy: "Now, although pleurisy naturally originates in a proper and specific inflammation of the blood, an inflammation which engenders it as a primary disease; it may, nevertheless, supervene as an accident to other fevers,

whatever be their kind; the febrile matter being precipitated upon the pleura or the intercostal muscles . . . . After attentively considering the various phenomena of this disease I think that it is a fever originating in a proper and peculiar inflammation of the blood, as inflammation by means of which Nature deposits the peccant matter on the pleuræ. Sometimes she lays it on the lung itself, and then there comes a peripneumony."

His Views Concerning its Origin.

"By this method (bleeding and purging), can we overcome that bastard peripneumony which originates in the over-abundant collection of phlegm, accumulated during the winter and breaking out upon the lungs.—The true peripneumony is of the same nature as a pleurisy, except that it affects the lungs more universally." Sydenham's description of rheumatism is both quaint and interesting:

Acute rheumatic fever, gout and rheumatic lumbago are distinct, conditions very well described indeed. Now both sorts of rheumatism arise from inflammation. No one doubts the inflammatory nature of pleurisy, and the blood of rheumatism is like the blood of pleurisy, as one egg is like another. Hence the cure is to be sought in blood letting."

Several shorter works came from the pen of Sydenham in the three epistles: — 1. Epidemic Diseases, written at Dr. Brady's request; 2. Venereal Disease, Dr. Henry Raman, University of Cambridge, and 3. The Treatment of Confluent Small-pox and Hysterical diseases.

It appears that Hysterical diseases was rather a comprehensive term with Sydenham. He writes: "I admit at once, that of all diseases, these present the obscurest diagnosis, and the most uncertain treatment . . . . . Of all chronic diseases hysteria—unless I err—is the commonest. . . . . True, indeed, it is that women are more subject than males. This, however, is not on account of the uterus, but for reasons which will be seen in the sequel. . . . . To simply enumerate all the symptoms of hysteria would be the work of a long day. Yet not less numerous than varied proteiform and chameleon-like. . . . . The affection which I have characterized in females as hysteria and in males as hypochondriasis arises (in my mind) from a disorder (ataxy) of the animal spirits. . . . . It is clear then to me, that it is not any corruption of either the semen or the menstrual blood to which according to the statements of many writers, this disease is to be referred. It is rather the faulty disposition of the animal spirits."

A most interesting passage well worth quoting along with others descriptive of his treatment has doubtless won for Sydenham the distinction as "the founder of the expectant treatment."

"A married lady, of equal birth and manners, called me in immediately after delivery—hysteria had caused a total suppression of the lochia. . . . . The hysteria defied every thing. Seeing then that I could only provide for her safety by leaving her to the prince and pattern of physicians—Time—I did nothing, a method which answered until the fourteenth day; inasmuch as although I saw her every day, I never saw her growing worse. Now, however, her female attendants, whom I had hardly restrained from effecting an injury under the guise of attention, persuaded her husband to lose no time in getting her bled from the right foot. This was no sooner done than the hysteria returned and was followed a few hours after by spasms, which were followed in their turn by relief—the relief of death."

"To speak the truth, I have long been one of those who think, that not only in the aforesaid puerperal complaints, but in all acute diseases whenever I find that from the medicine which I have thought fit to use. I am unable to give the patient reason to expect any definite benefit, I do no more than do my duty as an honest concientious physician, when I just do nothing at all, simply visiting the patient from day to day to see that he be no worse to-day than he was yesterday, nor yet likely to become worse by to-morrow. If, however, on the contrary, I try remedies whose efficacy is equivocal, there will be as much danger in the experiment as ever there was in the disease, the perils being just double to what they would have been otherwise and the chances of escaping them just half. . . . . Hence, every day does one of two things, it either adds to the safety of the patient or else gives the physician an opportunity of discovering what means he has more certain of destroying the disease than his previous ones."

His treatise on Gout and Dropsy appeared in 1683; that upon Gout is considered as Sydenham's masterpiece. Being a sufferer for many years he knew well the characteristics of the attacks and the conditions precipitating them, so that he has written a description of the disease not to be improved upon in these later days, save by a little finer definition as to the composition of the chalk stones and a more erudite discussion of metabolism.

It is in the discussion of dropsy that one of the weaknesses of the strong man is revealed. No reference is made to the altered circulation in seeking to explain dropsy, and while he recognises the fact that the blood must pass from the arteries to the veins, he asks, what microscope, however exquisitely elaborate shall make visible these minute pores by which, for example, the chyle passes from the intestines to the chyliferous vessels, or what microscope shall exhibit those ducts through which the blood, conducted by the arteries, is passed onwards to the

orifices of the veins." The capillaries were described already by Malpighi twenty-five years ago.

The "*Schedula Monitoria*" his last work, was published in 1686, and contains teachings upon a new fever, possibly typhoid fever, Saint Vitus's Dance, Bloody Urine, and several minor subjects. Let us look at his remarks on Chorea.

"St. Vitus's Dance is a sort of convulsion which attacks boys and girls from the tenth year until they have done growing. At first it shows itself by a halting, or rather an unsteady movement of one of the legs which the patient drags. Then it is seen in the hand of the same side. The patient cannot keep it a moment in its place, whether he lay it upon his breast or any other part of his body. Do what he may, it will be jerked elsewhere convulsively. If any vessel filled with drink be put into his hand, before it reaches his mouth, he will exhibit a thousand gesticulations like a mountebank. He holds his cup out straight, as if to move it to his mouth, but has his hand carried elsewhere by sudden jerks. Then, perhaps, he contrives to bring it to his mouth; if so he will drink the liquid off at a gulp, just as if he were trying to amuse the spectators by his antics."

We have yet to mention the *Processus Integri* and to briefly account for its existence. It contains nothing new, but is an epitome or summary of all the good things set down by the great London physician for his son's use. A friend, Dr. Monfort, had it for safe keeping and distributed twenty-five copies among private friends. A copy came into the hands of a German publisher in Nuremberg, and was published in an inconvenient form. A regular edition was then published, with the consent of the College of Physicians, and it met with remarkable success and may be regarded as the most popular and most widely read and influential of his works.

From Sydenham's own words it appears that he believed that in all acute, and most chronic diseases there is something (inscrutable?) divine, some specific property which is not discoverable by a search into the structure of the human body, and therefore accurate observation of the symptoms is of more value than mere anatomy. He defines disease as a vigorous effort of nature to throw of morbific matter. As long as the patient gets no worse from day to day no interference is indicated. A fever, being "a commotion of the blood," should be kept within bounds. Quoting Payne on this subject it is found that of drugs, purges very often, bleeding, and other strong measures, including blisters, he was not sparing, but sometimes would give no medicine at all, a proof of unusual courage in those days. His only rule was, what is useful is good, and this quality of the thing he strove

most diligently to determine. Blackmore has said seriously what Gideon Harvey has said scoffingly, that Sydenham made it his principle to go contrary to the practice of other physicians.

The usual method of putting a child or young person to bed with an invalid was also in his practice.

Describing a case Sydenham says: "One, Mr. Little, had a fever about seven weeks and at the time was so far spent that his doctor judged him a dead man. He was ancient, and having been treated with violent medicaments, was as weak as ever any I saw that recovered. The treatment having failed, I told his wife that nothing could preserve his life but the putting of a boy to bed with him. So she procured a link boy to be very close to him all night. The next morning I found his fever almost off and his eye and countenance more lively, upon which I pronounced all danger to be over. Yet afterwards, upon the recess of the boy he began to relapse, but the boy being got again, without any more treatment, he perfectly recovered."

Opium was one of the drugs much in requisition by Sydenham and it is said he introduced a liquid laudanum called by his name. It was widely used and is still found in French and Austrian Pharmacopœias. Strange as it may appear, it is thought that this preparation has made his name more widely known than his books.

He was among those who first used Peruvian Bark in the treatment of intermittent fevers.

His views touching the efficacy of mercury in lues, are thus expressed: "There is no specific by which lues has been cured unless evacuation have preceded. Mercury is no specific, nor yet are the so-called drying woods. Before they can be considered such, cases must be brought of a lues being cured by either, without salivation on one side or diaphoresis on the other. Besides this, as I have learned from experience, that the common surodifics will cure lues as well as the decoction of wood, so I believe that when an equally powerful excitant of salivation has been discovered in either the animal or vegetable world, it will cure as well as mercury."

The estimate to be placed upon the work of Sydenham is found in the words of John Locke, the philosopher, his friend and fellow-practitioner.

"I hope the age has many who will follow his example, and by the way of accurate practical observations which he has so happily begun, enlarge the history of disease and improve the art of physic, and not, by speculative hypotheses, fill the world with useless though pleasing visions."

As we look back through the years to the end of the 16th and the beginning of the 17th century, two figures stand prominently out upon the pages of medical history. The one we must regard as the representative of the scientific side of medicine, while the other as surely represents the art of medicine, or the practical side, To Harvey (1578-1657) his senior, Sydenham (1624-1689), gave no honour for his epoch-making discovery. Indeed those who have carefully studied his writings state that Sydenham never once mentioned the name of Harvey. Possibly, the circulation of the blood could mean but little to Sydenham. He lived too near the announcement of the event to see its bearings upon physiology and medicine, both of which this discovery has so completely revolutionized. While it may be regretted that these fathers in medicine did not combine the practical and the scientific side of their profession as fully as they might have done, yet it is not hard to believe that standing as they do in their respective relations to medicine they have been more influential in emphasizing the value of these two most important qualifications for a successful practitioner.

The histories of medicine in other countries are rarely written without mention of Sydenham's name, and we find that there is a Sydenham for each,—in Scotland, Abercrombie; in France, Bordeu; in America, Benjamin Rush, but, perhaps the greatest monument to the memory of Sydenham is the foundation and carrying on of the scientific society which bears his name.

Our English Hippocrates died of gout and renal calculus on the 29th of December, 1689, in his house in Pall Mall. In 1810 the College of Physicians, in restoring the inscription which marked his grave in St. James Church, Westminister, appropriately described him as, *Medicus in omne ævum nobilis,*—"a physician famous for all time."

Important Events of Sydenham's Life.

1624. Born, April 11th, Wynford Eagle, Dorsetshire.
1642. Went to Oxford, Magdalen Hall. Civil war engagements.
1646. Returned to Oxford.
1648. Fellowship All Soul's College, Degree of M.B., Oxford.
1650. Again in battlefield.
1656. Beginning practice in London, Westminister.
1659. Went to Montpellier.
1661. Practised in London again.
1663. First medical work published,—Modus Curandi Febris Propriis Observationibus Suprestructa.
1676. Degree of M.D., Cambridge.
1686. Sept. 29th, Article on Chorea.
1689. Dec., 29th, Death.

THE

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EDITED BY

JAMES STEWART, GEO. E. ARMSTRONG
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G. GORDON CAMPBELL, WILLIAM GARDNER
FRANK BULLER, F. G. FINLEY,
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WITH THE COLLABORATION OF

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BRITISH MEDICAL ASSOCIATION.

The seventy-second annual meeting of the British Medical Association was held in Oxford on the 26th, 27th, 28th and 29th of July. The next meeting will be held in Leicester. A deputation composed of Dr. I. H. Cameron, Dr. J. J. Mackenzie and Dr. Burnham, of Toronto, with Dr. Courtney, of Ottawa, waited upon the Council and extended an invitation to the Association to meet in Toronto in 1906. The Council at a subsequent meeting informed the deputation that it would recommend the Association to accept the invitation to Toronto for that year.

The Oxford meeting was inaugurated with the academic pomp and dignity which is so becoming to the ancient University. A special service was held in Christ Church Cathedral, at which many dignitaries were present. The president, Dr. William Collier, entertained a company of some hundred and fifty persons at dinner in Balliol College; and mention was made in fitting terms of the hospitality which was shown by the Colleges to the members of the Association.

The President delivered the annual address, and took for his subject the growth and development of the Oxford Medical School. He traced the stages by which that school has attained to a position worthy of the high traditions of Oxford. The address in Medicine was given by Sir William Selby Church. It dealt in the main with the health of the nation, the necessity for more advanced legislation and more authoritative administration of the law. Sir William MacEwan in the Address in Surgery, dwelt upon cerebral infection, upon the singular phenomenon of respiratory and cardiac reflex induced by peripheral impression on the pudic nerve, and upon the choice of suitable material for sutures and ligatures. His conclusion upon the last subject was that catgut, suitably prepared, with a varying resistance to absorption, was an adequate material.

Those who had to do with the arrangements for the Montreal meeting in 1897 will remember the labour which it entailed ; they will also remember with gratitude the generous co-operation of the whole profession in Canada, and the full appreciation which their efforts received from their visitors. The men in Toronto have already taken the thing in hand and have commenced organization. Their field is large enough, and the new Medical School will be a source of interest to visitors from home and abroad.

This will be the second occasion on which the Association has held a meeting outside the British Islands, and in our judgment, these adventures of travel will be productive of good to visitors as well as to hosts. The people of Toronto will learn that there is a considerable body of talent outside of their own community; the visitors will learn that the Association is a world-wide institution rather than a possession of the British Islands or of London, and that the Journal of the Association is an organ of the whole body, rather than an arrangement for recording the observations which are made from the London point of view. It is difficult for so large a Journal to preserve a correct perspective, and some residents abroad have thought that they noticed a tendency of things near the Strand to loom very large. It is but natural that the Balachulish quarries, Automibiles for medical men, the Registration of Midwives, and the impecuniosity of the Metropolitan hospitals should appear to be the most important things in the world ; but residents abroad will not so readily forgive a lack of urbanity in dealing with matters of medicine at large. One example will serve. The mishandling, as it appears to us, of Professor Clarence Webster's book on Midwifery was, in our judgment, an instance of lack of urbanity. The treatment of that book had the savour of the Whitechapel road; and if we mistake not the review in question was written between that thoroughfare and the Commercial Road.

Speaking of things commercial leads to the remark that the advertisements in the JOURNAL appear to bear an undue proportion to matters of more general interest. This involves the use of thin paper, and the JOURNAL is folded so tightly that when it is opened nine days overseas it has a tendency to fly up in the face—in a literal sense. From the Epitome of current literature, too, one gains the impression that there is very little of progress recorded in the English language. In the last number of the JOURNAL at hand, the issue for August 20th, there are fourteen references, and all are from foreign literature.

Because the Association is a body to which we are all devotedly attached ; because we purpose giving it such a welcome in 1906 as we gave in 1897 ; because the JOURNAL is in a sense our own mouthpiece, we feel free to speak the truth in love, as it appears to most persons in this country.

THE HEALTH COMMITTEE.

The Health Committee, under the direction of Dr. Dagenais, is manifesting signs of life, and their new regulations are being carried out with tact and sense. The by-law which compels the registration of all births occurring in the municipality is being fairly well obeyed, as is proven by the fact that last week the notifications of births exceeded the number of deaths which occurred. The Committee has shown a good spirit and their effort should meet with the co-operation of the profession, apart from the purely legal aspect of the case.

The problem of food inspection is also being faced, and adulterated or harmful products are being ruthlessly condemned. Jams and jellies have come in for special attention and the Dominion and City analysts are working together on the subject. Out of 74 samples only four were found to be genuine, the adulterants being turnips, glucose, mineral dyes and chemical preservatives. An examination and seizure of the product of one factory revealed a state of affairs which was nothing short of scandalous and the proprietor was very properly punished.

Upon the authority of the City analyst we are informed that the milk supplied during the year was of good quality, and, as a rule, considerably above the standard laid down in the civic by-laws. According to the by-law, milk sold in this city must contain not less than 3 per cent. of butter fat ; not less than 12 per cent. of total solid matter, and an imperial gallon of milk must weigh not less than 10.29 lbs., nor more than 10.33 lbs. at 60 deg. F. This by-law ensures a milk of good quality, from a chemical standpoint ; and the by-law can easily be lived up to by the milkmen, at all seasons of the year. Of 90 samples of suspected milk submitted for analysis, which involved about 500 separate

chemical determinations, a larger part were adulterated; 27 samples being adulterated by the addition of water, and 28 by skimming. It is gratifying to note that during the year not one sample of milk was found to be adulterated by the addition of such preservatives as formaldehyde or borax.

The Civic inspectors are now after the vendors of fruit and of ice-cream. Fruit is obviously liable to contamination by the clouds of dust, which are the one drawback from pleasant living in Montreal during the summer. It is the Road Committee rather than the fruit vendors which deserves attention. The confection which children find so delectable under the name of ice-cream requires strict oversight, and it would yield a rich find to biologists. Apart from the insignificant matter of bacteria one sample yielded a fine specimen of *Pediculus capitis*. The usual place for the storage of any surplus of these stocks is in the sleeping rooms of the proprietors.

In a very thorough investigation of the subject of the propagation of intestinal diseases by insanitary lanes and court-yards, Dr. Starkey was able to show the incidence of disease upon those localities which were the worst kept. The Health Committee has the remedy in its own hands. The civic by-law lays upon the landlord the specific duty of keeping his lanes clean, and he has the usual recourse against the tenant. The lanes are private property and they come under the laws which govern nuisances generally.

THE SURGEON AND THE LAW.

It is within the experience of every surgeon that accidents unforseen and unpreventable will happen. One of these accidents is the burning of a patient by heating appliances placed in the bed. We say that they are unpreventable, because they occur in the practice of the most eminent surgeons and in hospitals which are conducted with the most elaborate scientific carefulness. Indeed, there was a recent case in which an eminent surgeon in his own bed was the victim. A misadventure of this nature occurred in the practice of Dr. Fernand Monod and Dr. Henry T. Keating after an operation was performed in the Glengarry hospital, in Montreal. In consequence, the patient has taken an action at law against the surgeons to recover damages for the pain and inconvenience which he endured, and for the disability which he alleges he still suffers from.

Having the dread of law before our eyes, we have no intention of entering into the discussion of a case which is under adjudication; but that does not prevent us from making the general observation, quite apart from the merits of the present case, that a patient who undergoes

a surgical operation assumes all the risk which is directly or remotely associated with such procedure. When the surgeon has completed the operation his work is done for the time being. When the patient is placed in bed he comes under the care of the hospital and the nurses. If the nurses follow the most approved procedure in caring for a patient they cannot in our judgment be held liable for a misadventure which may have arisen from the nature of the operation and from the mental condition of the patient for which he himself is alone responsible.

The Glengarry hospital has been utilized by every surgeon in Montreal, and we are under the belief that their testimony will go to show the facilities to be enjoyed there are entirely adequate for the most approved surgical procedure. The blame for these accidents is usually awarded to the nurses, and often unjustly. A nurse has many things to contend against. The operation may be of such a nature as to preclude her from making an examination of the parts involved. She is often obliged to remain in ignorance of the exact nature of the operation or to withhold from the patient that she is in possession of such information. Again, the behaviour of a patient under an anæsthetic, his conduct in the bed, and more especially the vitality of his tissues, which renders them liable to injury, often depend upon the malady for which surgical assistance was sought. All these factors would have to be considered in placing the responsibility, and we imagine they will receive due weight in the present case. Dr. Monod's reputation as a surgeon, Dr. Keating's experience acquired in the Royal Victoria hospital, and the good name of the Glengarry hospital will also undoubtedly be taken into consideration. It is a salutary practice for medical men to resist all actions which may be thrust upon them.

THE ALCOHOL PROBLEM.

The American Medical Society for the study of Alcohol and other Narcotics was organized on June 8th, 1904, by the union of the American Association for the study of Inebriety and the Medical Temperance Association. Both of these societies are composed of physicians, interested in the study and treatment of inebriety and the physiological nature and action of alcohol and narcotics in health and disease. The first society was organized in 1870 and has published five volumes of transactions and 27 yearly volumes of the Quarterly Journal of Inebriety, the organ of its association. The second society began in 1891 and has issued three volumes of transactions and for seven years published a quarterly bulletin containing the papers read at its meetings. The special object of the union of the two societies is to create greater interest among physicians to study one of the greatest evils of modern

times. Its plan of work is to encourage and promote more exact scientific studies of the nature and effects of alcohol in health and disease, particularly of its etiological, physiological and therapeutic relations; to secure more accurate investigations of the disease associated or following from the use of alcohol and narcotics; to correct the present empirical treatment of these diseases by secret drugs and so-called specifics; to secure legislation, prohibiting the sale of nostrums claiming to be absolute cures, containing dangerous poisons; and to encourage special legislation for the care, control and medical treatment of spirit and drug takers. The alcoholic problem, and the diseases which centre and spring from it, are becoming more prominent, and its medical and hygienic importance have assumed such proportions that physicians everywhere are called on for advice and counsel. Public sentiment in turning to medical men for authoritative facts and conclusions to enable them to realize the causes, means of prevention and cure of this evil. This new society comes to meet this want by enlisting medical men as members, and stimulating new studies and researches from a broader and more scientific point of view. As a medical and hygienic topic, the alcoholic problem has an intense personal interest, not only to every physician, but to the public generally, in every town and city in the country. This interest demands concentrated efforts through the medium of society to clear away the present confusion, educate public sentiment, and make medical men the final authority in the consideration of the remedial measures for cure and prevention. For this purpose a most urgent appeal is made to all physicians to assist in making this society the medium and authority for the scientific study of the subject. The secretary is Dr. T. D. Crothers, of Hartford, and he will be pleased to give all information to those who are interested in this work.

MUSIC AND THE UNIVERSITY.

For the first time in the history of McGill University systematic instruction will be given in music during the coming session. The Royal Victoria College, for some years past, has included in its curriculum the subjects of singing, pianoforte playing, and the history and theory of music; but now the teaching of music is to occupy a more important place. A "Conservatorium of Music" has recently been established, largely through the instrumentality of the chancellor, and the University will share with the Associated Board the responsibility of conducting in Canada the examinations of the Royal College and the Royal Academy of Music, England.

So far as we understand the matter, pupils at the conservatorium are

not to be regarded as undergraduates. That is a matter for the future, when the University will be able to provide further opportunities, which are not evident from the printed announcement, for the study of music in a curriculum which will lead to the degrees of Bachelor and Doctor. At present, however, the entire management of the institution is vested in the University, though the university funds are not to be drawn upon for that purpose. The announcement to the public is guarded, and the whole scheme would appear to be tentative.

The course of instruction appears to us to be an ambitious one, including as it does, singing in oratorio, opera and drama; performance upon the pianoforte, organ, violin, clarionet, French horn, tuba, flute, bassoon, trumpet, tympani, harp, oboe, English horn and trombone, besides the teaching of theory, harmony and counterpoint, form, analysis, history and aesthetics. In addition to all this, there will be instruction in German, English, Italian and French. When the staff is itself sufficiently instructed in French, it will not permit of the abbreviation Mons. for Monsieur.

The staff seems to be composed entirely of local talent, to employ the usual phrase of the profession, though we fail to notice the name of at least one very distinguished teacher, and of one performer upon the piano, whose method entitles him to concert rank. The Syllabus appears to us to savour of the impressario and of the concert room, rather than of the austerity and dignity of a university.

THE DENTAL DEPARTMENT.

This year for the first time a dental Department has been established in connexion with the Medical Faculty of McGill University. As the regulation of studies and the registration of medical students and practitioners in the different Provinces of Canada are controlled by the medical boards of the separate provinces, so in the Province of Quebec the Dental Association has a like control over dental students and the registration of practitioners in dentistry.

In the Autumn of 1903 this body approached the University asking that a dental department be instituted, and as a result of negotiations continuing through the session of 1903-4, the University has established such a department, which is not independent, but is a section of the Medical Faculty.

Under the regulations which have been established governing the Dental Department, students may register in dentistry after passing the matriculation required of students of Medicine in McGill University, but those wishing to practice in the Province of Quebec, except those who hold a degree in Medicine or Arts from a recognized British or

Canadian University, must pass the matriculation examination of the Dental Association of the Province of Quebec.

The course demanded of students in the department of dentistry extends over four years. In the first two years the curriculum is that demanded of medical students, and the practical work during the last years will be done mainly at the Dental College. The teaching of dentistry in Montreal is now, one would think, amply provided for, there being courses open in Laval and Bishop's, in addition to the already established department at McGill.

PATENT MEDICINES.

A meeting of the Proprietary Association of Canada is advertised to take place in Toronto on the 7th September. The Honourable George T. Fulford, Senator, of Brockville, is the Honorary President of this body of scientists and philanthropists. The commodities in which the members of this Association deal are not to be confounded with the pharmaceutical preparations manufactured for the profession by those firms whose names are a guarantee of purity and excellence. Their products are best described by the terms Nostrums or Patent Medicines. There are certain subjects which we would commend for the consideration of this Association, and we should like to be informed as to the results of their deliberations. A paper might be read upon the inadvisability of employing alcohol to the amount of fifty per cent. in the preparations. There might be a discussion upon the pharmacological effects of large doses of opium when given to children, upon the use of cocaine in catarrhal conditions, and upon the employment of abortifacients. An exhibition might be made of large volumes containing cuttings from the newspapers to illustrate the methods of advertising which some owners of patent medicines employ. There might also be a Medico-Legal Section in which the relation of the procedure of these advertisers to the criminal law would be a profitable subject for consideration. It is not unlikely that some day this last subject of criminal responsibility will receive attention at the hands of a body which will not deal with it in so liberal a spirit as the members of the Proprietary Association would be disposed to manifest.

Dr. Osler has been transfigured again; or rather, he has attained to another stage in his metamorphosis by his appointment as Regius Professor of Medicine at Oxford, in succession to Sir John Burton Sanderson. This JOURNAL long ago uttered an oracle, that as Dr. Osler approached the sixth decade of his life he would return to his own country. The thing has come true, but scarcely in the way which was so devoutly wished. Oracles, however, are notoriously capable of more

than one interpretation. Dr. Osler has before him a life of ease with dignity, which, for him, means doing with his whole spirit the thing which he loves to do, and does so well.

Dr. J. V. Anglin, who has been for many years First Assistant in the Protestant Hospital for the Insane at Verdun, has resigned that position. Dr. Anglin has been appointed superintendent of the New Brunswick Asylum in St. John and will take up his new duties in October. This appointment is another evidence of the growing conviction on the part of the asylum authorities that the care of the insane shall be placed in the most competent hands irrespective of local and political affiliations. The Government of New Brunswick has displayed sagacity in securing the services of Dr. Anglin.

Dr. William Bayard, the oldest medical practitioner in New Brunswick, celebrated his 91st birthday on the 21st of August. For 67 years Dr. Bayard has laboured with untiring zeal at his profession. The father of Dr. Bayard was Dr. Robert Bayard, who before taking his M.D. course at the University of Edinburgh, had held a lieutenant's commission in the British army. Previous to 1813 he was professor of obstetrics in the University of New York.

The English medical journals announce with full obituary notice the death of Sir William Mitchell Banks, of Liverpool. This celebrated anatomist and surgeon was intimately known to the profession in Montreal and he had several close friends here. Mitchell Banks was a man who could ill be spared in the world of literature and of medicine.

The death of Dr. T. Gilbart-Smith, physician to the London Hospital is announced. Old students upon their return to the hospital will miss the courtly figure, the characteristic garb and kindly face of that fine Irishman.

Reviews and Notices of Books.

Diseases of the Nose and Throat. By D. Braden Kyle, M.D., Professor of Laryngology and Rhinology, Jefferson Medical College, etc. Third Edition, Revised and Enlarged. Octavo Volume of 669 pages with 175 Illustrations, 24 of them in Colours. Philadelphia, New York and London, W. B. Saunders & Co., 1904; Toronto, J. A. Carveth & Co.

The first edition of this work appeared in 1899, and now a third has been issued; this fact is sufficient evidence that the author's efforts

have been highly appreciated and the reason of this appreciation is obvious, to those who give this well printed, well illustrated and well indexed volume the careful study it deserves. In the new edition, the most important alterations and additions have been made in the chapters on keratosis, epidemic influenza, Gersuny's paraffin method for correcting nasal deformities and the X-ray treatment of carcinoma. The chapter on hay-fever has been re-written and enlarged, and the author describes his experiments in the chemistry of the saliva and nasal secretions and draws some interesting conclusions therefrom. The operative treatment of deformities of the nasal septum has been more fully and lucidly described than in the previous editions. The whole work is so admirable and so useful that it seems almost superfluous to call attention to some minor defects. Yet one cannot help noticing the absence of any mention of Dunbar's contributions to the study and treatment of hay-fever, and we think there is a lack of sufficient detail in describing the operative treatment of diseases of the accessory sinuses of the nose. Still, unquestionably this book is one of the best text-books on diseases of the nose and throat published in America.

A Text-Book of Human Physiology. By Albert P. Brubaker, A.M., M.D., Professor of Physiology and Hygiene in the Jefferson Medical College; Professor of Physiology in the Pennsylvania College of Dental Surgery; Lecturer on Physiology and Hygiene in the Drexel Institute of Art, Science and Industry. Published by P. Blakiston's Son and Co., Philadelphia; with coloured plates, 354 illustrations and 699 pages. Price $4.00, Chandler and Massey, Toronto.

This book is one of which there are many good things to be said. It gives a very sufficient account of the anatomy and histology of the various organs, and builds upon this foundation an excellent description of their functions, discussing the experimental facts and the theories based upon them in a judicial spirit. It presents the views of rival schools of thought with unusual fairness and freedom from personal bias. So much is this the case that it is often difficult to determine to which party the author belongs. As an example we may mention the vexed problem of lymph formation, of which the mechanical and secretory theories are both presented and very impartially. Similary, in discussing the glycogenic function of the liver the rival theories of Claude Benard and Pavy are both explained, and then the student is advised to wait for further facts before finally deciding whether glycogen is reconverted into sugar in the liver or not. We are glad to find, however,

that in discussing the secretion of urine he casts a very decided vote for ascribing a more active secretory function to the epithelium of the tubules than is allowed it by the Ludwig school. As a rule, the attitude of the book towards recent work is a conservative one, as should be the case in a book designed primarily for students.

The book no doubt lays itself open to criticism in some minor details and the following may be cited as possibly open to improvement: The globulins are excluded from the class of native proteids. Caseinogin and nuclein are classified in the old way as an albuminate and an albuminoid respectively, and not as conjugated proteids. The division of peptone into hemipeptone and antipeptone is retained. The presence in the vagus of inhibitory fibres to the respiratory centre is not recognized. We are anxiously awaiting a text-book of physiology in which the most consistent views of the respiratory centre, set forth by Max. Zuvandowsky in 1896, will receive the notice which is their due. An English eye is offended by the frequent curtailment of words, which converts chemical and physiological into chemic and physiologic. The book is not too big for a good student to master. It contains an adequate account of physiology to prepare the student for either examination or practice. It is so well balanced and so wisely written throughout, that we can give it our heartiest support and good wishes.

The Doctor's Recreation Series. 12 Volumes: The Saalfield Publishing Company: Akron, New York, and Chicago: Price, $2.50 to $4.00 per volume.

The first volume of this series has reached us. It is entitled The Doctor's Leisure Hour and is arranged by Porter Davies. The general editor is Charles Wells Moulton, and the other volumes bear the titles: The Doctor's Red Lamp; In the Year 1800; A Book about Doctors; The Doctor's Window; Passages from the Diary of a Late Physician; The Time of Rest; Doctors of the Old School; The Shrine of Aesculapius; The Doctor's Domicile; A Cyclopædia of Medical History; The Doctor's Who's Who. For the present we are speaking of the first volume alone, and believe it does not convey a correct impression as to the value of the series. It contains a collection of "funny stories," pertaining to the medical profession, which have been current from the time of Scholastikos to the present day. In other words, it contains the dregs and rinsings of the comic supplements. A perusal of the foremost hundred pages produced upon the present writer a feeling of profound melancholy. The book will serve to pass that leisure hour which patients are sometimes compelled to pass in the waiting room, but a sensible doctor would not be much enlivened by it. It must seem

ungracious to speak harshly of any effort to amuse; but the fact is there, that any obviously funny book produces only a heaviness of spirit.

Since the foregoing paragraph was written, the second volume has come to hand, and it confirms the impression which was recorded, that the value of the series was inadequately represented by the first volume. This one contains twenty-two short stories, and bears the title The Doctor's Red Lamp, borrowed from the title-page of Sir Arthur Conan Doyle's well know book. Many of the stories are familiar, and all are worth reading.

A System of Practical Surgery. By Professor E. von Bergmann, of Berlin; P. von Bruns, of Tübingen, and J. von Mikulicz, of Breslau. Vol. IV., Edited by William T. Ball, M.D., New York. To be completed in five volumes. Philadelphia: Lea Bros. & Co., 1904.

Volume four is devoted to the surgery of the alimentary tract. The opening chapter by Hacker, deals in a most thorough way with the malformation and diseases of the œsophagus. It is one of great interest, and incidentally gives the reader a history of œsophagoscopy, describes the best instruments so far devised and the technique of their use, accompanied by many illustrations.

Then follow chapters on Injuries and Diseases of the Abdominal Wall, by Prof. Steinthal; Injuries and Diseases of the Peritoneum, by Prof. Körte; Laparotomy, by Prof. von Mikulicz and Dr. W. Kausch, who also wrote the chapter on Malformation, Injuries and Diseases of the Stomach and Intestines. These chapters are of extreme interest. Perhaps no surgeon has contributed more towards the perfection of the technique of abdominal surgery than Prof. Mikulicz. He has written a most valuable article and his methods have been well tried and he speaks from a large experience. Prof. Schlange writes the chapter on Intestinal Obstruction, a subject of such vital importance to every practicing physician and surgeon. Volume four is fully up to the standard of the preceding volumes and is highly commended.

A Text-Book of Pathology. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia; Pathologist to the Medico-Chirurgical Hospital, Philadelphia. Handsome octavo volume of 818 pages, with 350 illustrations, a number in colours. Philadelphia, New York, London: W. B. Saunders & Co., 1904. J. A. Carveth & Co., Toronto. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

Dr. McFarland is well known from his text-book upon the pathogenie bacteria, which has gone through four editions in ten years. He now invites judgment upon a text-book of pathology. It is not

apparent, at first sight, why Messrs Saunders found it necessary to publish this new text-book in such close succession to that by Dr. Stengel, which reached us on the 25th September, 1903. They are almost identical in outward appearance, and the scope of the subjects is the same. To institute a full comparison between the two would be a work of literature. It is useless for a reviewer, even though he be a pathologist who has grown up with the subject, to pretend that he has read all of these thousand pages. Comparisons must therefore be avoided and final judgment disclaimed. Impressions only can be recorded. The impression then is that this is a good book. It is certainly interesting and is enriched by much old learning and curious instances. The amount of collateral information, especially that which is given in small type, is very great. It is hard to realize, after an examination of this book, that there will ever again be any necessity for yet another text-book upon pathology, until, at least, some new field shall have been opened up. Dr. McFarland has added greatly to his reputation by this publication.

Manuel de Matière Médicale a l'usage des garde-malades, par le docteur E. P. Benoit, de médecin l'hôpital Notre-Dame, professeur suppléant de pathologie interne à l'Université Laval. Vol. in-16, broché, 286 pages. Prix, $1.00. (S'adresser à l'hospitalière en chef de l'hôpital Notre-Dame.) Frais de poste: 10 centins.

We welcome this book for its inherent value as well as for the evidence which it affords of the new spirit which is growing up amongst our French confrères. The work is designed primarily for nurses, who in many Canadian hospitals belong to religious orders. Those who witnessed Dr. Pozzi's operations during his recent visit came away with the impression that a woman may be a nun and a most competent nurse at the same time. This book of Dr. Benoit's, if rightly employed, will make the nursing staff still more competent.

The Practical Application of the Röntgen Rays in Therapeutics and Diagnosis. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois; and Eugene W. Caldwell, B.S., Director of the Edward N. Gibbs Memorial X-Ray Laboratory of the University and Bellevue Hospital Medical College, New York. Second Edition revised and enlarged. Handsome octavo volume of 690 pages, with 195 illustrations, including four coloured plates. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

This is the second edition of this book. The first edition reached us

July 13th, 1903, and received favourable mention in the August number of this JOURNAL for that year. We desire to emphasize again the good features of the work; the thorough digestion of the current literature; the illustrations to show the results of the application of the X-rays; the description of apparatus and directions for its management, and the large citation of cases.

CONTRIBUTIONS FROM THE WILLIAM PEPPER LABORATORY OF CLINICAL MEDICINE: ALFRED STENGEL, Director, 1903.

This book of over 300 pages contains a review of what was done in the clinical laboratory of the University of Pennsylvania during one year. The record is long and the work valuable. It is set forth without adornment for the benefit of those who are trying to build up a science of medicine upon ascertained facts. There are 29 separate studies upon a wide range of subjects, so important that they must claim attention from all workers wherever they may be.

REPORT OF THE SUPERINTENDENT OF GOVERNMENT LABORATORIES IN THE PHILIPPINE ISLANDS: For the year ended September 1st, 1903.

If anyone would learn of the great task to which the people of the United States have set their hands—the reclamation of those islands from barbarism—he will find the whole matter in this report. It tells in scientific terms of the effort which is being made to equip these strangers with the weapons of science against the diseases which attack them and the pests which have kept them in misery.

A TEXT-BOOK OF MECHANO-THERAPY. (Massage and Medical Gymnastics). For Medical Students, Trained Nurses, and Medical Gymnasts. By ALEX. V. GRAFSTROM, B.Sc., M.D., Attending Physician to the Gustave Adolphus Orphanage, Jamestown, N. Y. Second Edition, revised, enlarged and entirely reset. 12 mo of 200 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Canadian Agents, J. A. Carveth & Co., Toronto. Cloth, $1.25 net.

INDEX.—Catalogue of the Library of the Surgeon-General's Office, United States Army; Second Series, Vol. IX., L. Syuri, 1904.

Medical News.

CANADIAN MEDICAL ASSOCIATION.

The thirty-seventh annual meeting of the Canadian Medical Association was held at Vancouver, on the 23rd, 24th, 25th and 26th of August. In respect of general interest, attendance and completeness

of preparation, this meeting was not excelled by any in the history of the Association. The attendance from the Eastern portions of Canada was large, and Montreal sent a contingent which was excellent in quality and in members. The president, Dr. Simon J. Tunstall, had gone over the ground thoroughly and was in close touch with the members both before and during the meeting.

The full reports of the meeting have not reached Montreal at the time of the present writing, but the following is a summary by telegraph of the daily programme:

Tuesday—10 a.m., business session; 2 p.m., business session; evening, address by president, S. J. Tunstall, M.D.

Wednesday—10 a.m., business session; 2 p.m., business session. At this time the wives of the local medical men took the visiting ladies for drives and excursions, and at 4 p.m. tendered them a reception at English Bay. Evening, business session; an illustrated lantern lecture by Prof. Dudley, of Chicago.

Thursday—10 a.m., business session; 1 p.m., excursion to New Westminister to inspect various buildings, an excursion on the Fraser and visit to Steveston. Evening, annual banquet at Hotel Vancouver.

Friday—9 a.m., meeting of British Columbia Medical Association; 10 a.m., business session; 1 p.m., excursion to Victoria, leaving on the Princess Victoria. Evening, excursion in launches up the Gorge.

Saturday— A.M., drives about Victoria; p.m., excursion to Esquimalt, Williams Head and various points of interest. Evening, reception by the provincial government in the parliament buildings.

On Wednesday evening the President delivered the annual address. He spoke in part as follows:

I feel it to be my first duty to this convention to render thanks to them for the honour they have conferred upon me in choosing me as their president. When I remember those who have previously occupied this chair so well and ably, I cannot help but feel my insufficiency for the task which has been assigned me. I feel this especially when I consider how far to the west you have come in choosing me as your presiding officer, and again do I feel especially honoured as I see this convention assembled so far in the west, in my own home.

My modesty is such that I cannot think that the honour which has been given me was given to me as an individual, but would rather think I have been chosen as a representative of the men by whom I am surrounded, and the western province which I represent. I tender my hearty and sincere thanks for the honour bestowed in my election and in this present convening in British Columbia, and hope that your stay may be pleasant and profitable.

The development of British Columbia has been so rapid as to surprise many of you who come to this city. It has been such a short time since it was settled, for it seems but a day since Vancouver was built. But two decades ago the site of this building was the haunt of the deer, the bear, the savage, and it was but eighteen years ago that the erection of this city was begun. And in that time we have attained to heights which compare favourably with the standard of cities twice or thrice our size.

Among the many advantages we enjoy and improvements which are ours may be noted our pure and abundant water supply from a never failing source, our complete sewerage system with the latest ideas of septic tanks, our paved streets, our sidewalks, where now the concrete is rapidly supplanting the old plank walk; our public buildings and our hospitals, especially the new hospital which, when completed, will be the peer of any. Yes, we are keeping pace with the times. It is but a short time since all British Columbia was in the possession of the aborigines, and it was only in the memory of men now living that that spot was settled now called Victoria, and it was only in 1858 that a government was established over that part of the country now known as British Columbia.

The discovery of gold in the Cariboo district made the country known far and wide, and hither rushed the large number of pioneers, drawn by a desire for the precious metal. And then was conceived in the minds of men that great transcontinental dream—the C. P. R. Many difficulties were in its way, political difficulties, natural difficulties, but it pursued its way and, in spite of all, it was carried through and gave as a result of its completion a united east and west, made of all parts one whole country, even our beloved Canada.

This association represents the most enlightened and trained minds it is possible for us to demand. The first trained men representing the medical art in these parts were Helmcken and Tolmie; and their predecessors were the medicine men of the aborigines. We see here then, brought together in the assembling of this convention the old and the new, the enlightened minds and the superstition of the savage.

In this address it might be fitting in the light of these thoughts to trace the march of science from the early days of superstition and ignorance to the days of Virchow, Pasteur and others, but such is not my intention.

We are all familiar with the use of hypnotism as it is used in the art of medicine to-day. I call to your attention that in the use of this so-called science we, in this enlightened day, are but returning to the methods employed by the medicine man in his ignorance. The old medicine men had implicit belief in their power to effect cures by driving the cause

from the sick person, they personifying the cause as an evil spirit. He, by a method which answers to the "suggestion" of modern hypnotism, sought to impress this belief upon his patient. The droning song, the incantations, the beating of the kettle-drum are means to this end. It is an old saying: "There is nothing new under the sun," and it seems to me that in following that modern school of "fancy" we are returning to the old, and possibly in some parts even present, superstition of the savage.

There are four points which are uppermost in my mind which I deem of greatest importance, and of these I speak in order. They are The Canadian Medical Protective Association, The Federal Health Bill, The Dominion of Canada Medical Act, and The Treatment of Inebriates.

The Canadian Medical Protective Association has strong claims upon all engaged in the practice of medicine and should have the sympathy and support of each and every one. The society fills a place where there was a crying need. It stands by the physician to protect him from wrongful accusation and base slander by persons either ill disposed, on the one hand, or unscrupulous on the other.

The future prospect of the medical practitioner depends to a very large degree upon the reputation he has in a community. Understanding this well, therefore, there are many attempts made to blacken this attribute and as a result destroy his future career and his power as a money earner. This association has taken up matters of this kind and has protected its members from such assaults. When the time came it has backed up the physician and fought the cases to the end. It is therefore no longer an experiment but has proved its use. And yet out of 6,000 who are available, only 300 have joined the association. This is but a paltry number and many, many more should join. I would like to ask for a special committee to canvass the convention and endeavour to secure new members for this organization.

The aims of the society are possibly sometimes misunderstood. It does not aim to defend the reputation of unworthy practitioners, nor to back them up in cases of malpractice, but its idea is to protect the worthy man and to prevent him being assailed by actions brought by reason of spite, for the purpose of blackmail, or in hope of securing a bribe. Only by joining such an organization can we feel confident of meeting and conquering in such cases as these. We wish, therefore, to mention this matter at length in the hope that we may arouse you.

Concerning the Federal Health Bill, I am glad to note that some progress has been made and those in authority who are acquainted with the matter are well disposed.

It was at a meeting of this convention, which was held in Montreal in 1902, that a memorial came asking that a department of health be formed to be under the government of the crown. As yet, though some progress has been made, the full desire is not granted, and I hope the convention will pass strong resolutions concerning the matter.

Concerning the Dominion Medical Act, it has been but recently brought before the authorities, but since its coming to light the efforts of some have been untiringly directed to its advocacy. Concerning the proposed arrangements there seems to be great ignorance and total misunderstanding in some quarters. The claim is made by some that by the enactment of this act the various provincial boards would be deprived of their rights. This is not a true statement of the case. In Quebec, for an illustration, when a man desires to take his examination he may have the privilege of being examined in the language which he desires. By this new act it is left to each province to fix its own standard, and provincial boards now in existence might remain and act as examining boards under the new *régime*.

The bill, however, is a purely permissive one, and it is necessary that all the provincial medical boards shall give their consent in the matter. I hope this will soon come to pass as it would mean a mighty advance movement in the profession. It is intended to establish a central medical power which shall have the right to grant licenses to practise, not within the bounds of one province, but throughout the Dominion and the United Kingdom. It aims to make all stand on an equal footing anywhere in the United Kingdom.

This effort is most laudable and should receive the support of every man. I trust that this convention will act in the matter and, remembering the efforts previously made, press on to a successful issue.

Concerning the last subject I have indicated, The Treatment of Inebriates, there has often been felt the pressing need of something being done for this class, such as the establishment of an institution similar to an hospital and insane asylum combined. The efforts which have been made under old ideas and methods have proved unavailing. The question is a grave one and of vital interest since in so many ways it affects seriously our Commonwealth. In Ontario an effort has been made to meet this condition and a bill has been introduced with laudable aims. But we need not provincial but Dominion action concerning the matter. I hope the convention will appoint a committee to draw up some measure in this connection, either following the Ontario idea or bringing to light a new one. I will gladly assist in the drafting of such a measure. It would, I am sure, do much to diminish pauperism, vice and crime, and restore these unfortunates to the positions they once occupied in the walks of life.

I desire to express my sincere thanks to the visiting physicians and surgeons for their visit to this convention, and trust their stay will be fruitful and of pleasant remembrance.

In closing, Dr. Tunstall renewed his statements as to the pleasure it gave him to officiate, and trusted that the suggestions he had made might meet with the approval of the convention and have their support.

The following officers were elected:

President—Dr. John Stewart, Halifax.

Vice-Presidents—Prince Edward Island: Dr. McLaren, Montague Bridge; Nova Scotia: Dr. J. B. Black, Windsor; New Brunswick: Dr. A. B. Atherton, Fredericton; Quebec: Dr. James E. Dubé, Montreal; Ontario: Dr. H. Meek, London; Dr. W. S. England, Winnipeg; British Columbia: Dr. R. E. Walker, New Westminster.

Local Secretaries—Dr. H. D. Johnson, Charlottetown; Dr. G. C. Jones, Halifax; Dr. T. D. Walker, St. John; Dr. J. D. Cameron, Montreal; Dr. Stuart, Palmerston; Dr. Hewittson, Pincher Creek; Dr. Popham, Winnipeg; Dr. A. S. Monro, Vancouver.

General Secretary—Dr. Geo. Elliott, Toronto.

Treasurer—Dr. H. B. Small, Ottawa.

Executive Council—Drs. G. M. Campbell, J. Ross, C. D. Murray, Halifax.

The meeting of 1905 will be held at Halifax.

Immediately after the adjournment of the Canadian Medical Association a session of the Canadian Medical Protective Association was held. Dr. Powell, of Ottawa, the president, occupied the chair.

Dr. Tunstall moved that a small executive be appointed in each province to have general supervision of affairs and represent the society in the provinces.

The following officers were elected for the coming year: President, Dr. Powell, Ottawa; Secretary and Treasurer, Dr. J. A. Grant, jr., of Ottawa.

McGILL MEDICAL FACULTY.

The work of the seventy-third session in the Faculty of Medicine of McGill University will begin on Wednesday, September 21st., the register for students opening on the 12th. Many enquiries are being made by prospective students and a large number are expected to enroll themselves. For the opeing lecture, which will be given on the 20th September, the Faculty has secured Dr. A. C. Abbott, of Philadelphia. Some changes will be noted in the personnel of the teaching staff for the coming session; two of the most promising of the younger members having resigned to take up work in the schools. Dr. Halseys' work in

pharmacology will be taken up by Dr. Scane, but as yet no steps have been taken to replace Dr. Tait McKenzie, whose resignation from his positions will be keenly felt by Faculty and students alike.

MEDICO-CHIRURGICAL SOCIETY.

The first meeting of the Council of the Medico-Chirurgical Society for the season of 1904-1905, was held in the rooms on the 30th August. The newly elected officers were present and took up their duties. The arrangements for the approaching session were discussed and the committees were filled where vacancies had occurred. The first meeting of the Society will be held on the 7th October, when the members will come together at a smoking concert.

WESTERN GENERAL HOSPITAL.

Report for July: In door; there were 44 patients admitted during the month, 41 discharged and 1 died: Out door: There were 575 consultations during the month; 187 medical; 80 surgical; 103 gynæcological; 50 eye and ear; 71 nose and throat; 13 skin and 71 genito-urinary.

ROYAL VICTORIA HOSPITAL.

Report for the month ending July 31st: Patients admitted during month, 231; discharged, 241; died, 16; ambulance calls, 71; medical, 75; surgical, 102; ophthalmological, 21; gynæcological, 22; laryngological, 11; total 231: Out door, medical, 848; surgical, 413; opthalmological, 251; gynæcologica 1,159; laryngological, 232; total 1903.

MONTREAL GENERAL HOSPITAL.

During the month of July, 279 patients were admitted to the wards. Deaths numbered 19. In the outdoor department, there were 2,952 consultations. The ambulance responded to 107 calls.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

Dr. Léon Cahier, "Traumatic Myosteomata," *Rev. de Chir*, 1904, Nos. 3-7.

Prof. Cahier, of Paris, resumes this subject very fully in a long article running through five numbers of the *Revue de Chirurgie*. Osteomata developing in a muscle as the direct consequence of trauma appear to be not at all infrequent. Cahier finds in the literature a total of 133

cases, of which 54 involved the arm, 73 the thigh, and 6 various other muscles. They are to be differentiated, he maintains, from the "osteomata resulting from fracture," first described by Virchow, which are due to the growth of fragments of periosteum and bone torn loose by the trauma. Nor are those muscle-osteomata which are adherent to bone to be confounded with the exostoses.

They may, or may not, be attached to the neighbouring bone by a pedicle, which is usually bony. Of the 133 cases, 72 were free in the muscle; 57 were adherent to the bone.

As to localisation, the brachialis anticus in the upper limb is involved in the great majority of cases, while in the lower limb the quadriceps and the adductor longus are about equally affected. An interesting point concerns the nature of the trauma. In the upper limb, it is in two-thirds of the cases a posterior dislocation of the elbow. On the other hand the lesion in the lower limb is due most often to some violent effort of the cavalry recruit to keep his seat. In agreement with this is the fact that nearly all of the cases are found in young men, especially those exposed to the accidents of violent exercise. Soldiers, particularly the cavalry, supply the highest quota of cases; and indeed the subject has been but little studied save by army surgeons. Another interesting particular relates to the rapidity of the formation of these bony growths. In 90 cases, the osteoma was observed 34 times within the first month; and 33 times between the first and second months; indeed in 6 cases it was found between the eighth and tenth day. Such cases Cahier finds credible, inasmuch as bony callus from fracture is demonstrable from the tenth day onwards.

The pathogenesis of these tumours is not firmly established. It is hardly necessary even to mention the abandoned theory of the ossification of blood clot, through cartilage; nor the theory of Bard which would call these growths merely aberrant sesamoid bones. The only two hypotheses which deserve consideration are those of periosteal implantation and myositis ossificans. According to the first, muscle osteomata are due to the tearing-off and consecutive proliferation of a periosteal or osteo-periosteal fragment—practically a dislocated callus. This theory rests upon a strong experimental basis. Ollier showed that a portion of periosteum detached from the tibia of a rabbit and carried out into the subcutaneous tissue will produce in a fortnight a new formation of bone of the length of 4 cm. In 1894, Sieur and Berthier, operating upon a rabbit, laid bare the muscular insertion of the adductors of the thigh, detached a small sheet of periosteum with the muscle attached, stimulated the muscle electrically to favour retraction of the periosteum; and found after a variable lapse of time a constant new

growth of bone within the thigh muscles. There are a considerable number of clinical facts to support this theory; but they concern apparently only those osteomata that are firmly attached to the neighbouring bone. The more numerous "free osteomata," Cahier believes, cannot be explained thus; and he adopts the second hypothesis, that of an ossifying myositis, a production of bone through inflammation of the interstitial fibrous tissue of the muscle. The histological evidence which shows in many cases an inflamed or degenerated muscle surrounding the bony new growth, together with the fact that frequently no connexion can be demonstrated between the osteoma and the periosteum are the strong points in support of this theory.

The question of treatment lies wholly in determining the favourable moment for operating. Cahier's rule (borrowing an expression from eye surgery) is to "operate when the myosteoma is ripe," that is to say, when the process of ossification has come to an end. An early operation is apt to be incomplete, and recurrence takes place. A skiagram is the best means of ascertaining this stage of development. When the shadow contours are clear cut it is time to remove the growth; and it must be removed *larga manu,* with a layer of the surrounding healthy muscle.

J. von Mikulicz—Increasing the Resisting Power of the Peritoneum Against Infection—*Arch and Klin Chir,* 1904. Heft. 2.

Von Mikulicz counts as one of the most experienced and most thoughtful abdominal surgeons of the present day, and any utterance of his must command attention. The above title indicates his latest contribution to abdominal surgery, and it opens up a bright perspective. The problem of how best to combat post operative peritonitis is a difficult one. In the direction of a specific immunising serum, he sees, for the present at least, but little hope; the varieties of infection are so numerous, and the polyvalent sera apparently so inefficient.

There is, however, another side from which to attack the problem; we may try to increase the general resisting power of the organism to bacterial invasion. And one means to this end consists in inducing an artificial hyperleucocytosis. Working along this line, Dr. Miyake, in Mikulicz' clinic, carried out a series of experiments on guinea-pigs. Neutralized nucleinic acid in 0.5 per cent. solution, subcutaneously injected, was found to increase 16 to 20 fold the resisting power of the peritoneum; so that, for instance, even a considerable amount of fæces free in the abdominal cavity was overcome without damage, while in control animals a fatal peritonitis was the regular result. (The details of the experiments should be read in the original).

Von Mikulicz felt justified by these promising animal experiments

in using nucleinic acid subcutaneously in his human laparotomies; and he expresses his belief that, in the series of 34 cases of which he gives the details, the effect of the hyperleucocytosis induced was a decidedly good one. Naturally, in the human, without the freedom of animal experimentation, such conclusions must be very relative, at least until very many more cases have been accurately observed. Yet the results justify an extended trial of the method. Fifty cc. of a 2 per cent. sol. of neutralized yeast nucleinic acid (obtainable from the Böringer firm in Mannheim) injected subcutaneously 12 hours before operation would seem to be, according to the author, the best way of administering the drug.

Dr. Mignon, "Surgical Treatment of Meningitis Consecutive to a Basal Fracture," *Rev. de Chir.*, Paris, June, 1904.

Mignon's patient had suffered a fracture of the anterior fossa of the skull with involvement of the ethmoid. On the fourth day after the accident, the temperature, normal till then, rose suddenly, and other signs of meningitis developed. Mignon decided to drain the meningeal space; and to that end trephined on both sides a little in front of and above the ear. After incising the *dura mater*, a small tube was pushed in towards the anterior fossa. Almost immediately the meningeal symptoms lessened, and in the sequel gradually disappeared, ending in complete recovery in twenty days. Lumbar puncture, practised on the day following the operation, yielded a pure growth of the pneumococcus.

Mignon's operation, on the surface, appears rational. *Ubi pus, ibi evacua.* But one may reasonably doubt whether it really was so. The base of the skull, with all its irregularities, must be a mighty difficult region to drain effectually, unless the infection be narrowly localized. Even in this one case, it would scarcely be justifiable to establish a *propter hoc* upon this *post hoc*, considering the comparative lack of virulence of the pneumococcus, not to mention the beneficient effect in many cases of lumbar puncture alone.

M. Gaugolphe, "The Conservative Operation in Osteo-Sarcomata of the Humerus." Translations of the Lyons Surgical Society. *Rev. de Chir.*, June, 1904.

Gaugolphe discusses the points in favour of the conservative operation of simple resection of the diseased area in the humerus as opposed to the radical removal of the whole limb with the shoulder. There is a distinct tendency lately towards the conservative operation in cases of central bone sarcoma (not the periosteal form) on account of their relatively slight degree of malignancy. Moreover, the radical operation

with its great mutilation, is frequently declined by the patient till too late, while the simple resection will ordinarily be accepted. The latter, it appears, has given good results in a number of cases, both as regards early restoration of function and late freedom from recurrence.

E. W. A.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND W. F. HAMILTON.

HALL AND WALBRACH. "Adiposis Dolorosa with report of three cases." —*The Amer. Journal of Med. Sciences,* Aug., 1904.

HAMMOND. "An Instance of Adiposis Dolorosa in two Sisters"—*The British Med. Journal,* July 16th, 1904.

Adiposis Dolorosa is fast becoming recognized as a condition requiring a separate description and the above descriptive term seems better than "Dercum's Disease" by which it is sometimes known. Perhaps, if one were to give a yet more descriptive title to what as yet may scarcely be regarded as meriting a classification under *diseases,* one might write Adiposis Dolorosa of Dercum-Vitant; since it appears that the credit of describing the condition is due to Dercum, while the classification of the characteristic symptoms and signs were done by Vitant. According to this last mentioned writer, an accumulation of adipose tissue, pain, asthenia and psychic phenomena, are the four cardinal symptoms of the disease. The fatty accumulation may be of the nodular, localized diffused or general diffused form; it may be found on legs, hips and thighs; unitateral or bilateral. The pain may be spontaneous or induced. Sometimes extreme tenderness exists. The psychic phenomena consists in extreme irritability—"a marked tendency to causeless quarrelling and even vague ideas of persecution." The asthenia is often marked.

Traumatisin, rheumatism, syphilis and alcoholism have been looked upon as possible causes in some of the cases reported.

There have been autopsies in five cases and the findings suggest a relationship to those of acromegaly.

The thyroid was enlarged and the seat of calcareous infiltrate. The pituitary body was enlarged and gliomatous in two, and in a third there was an adeno-carcinoma. There was an interstitial neuritis in the nerves passing through the fatty tissue. Both affections, occurring in the majority of cases in women, seem undoubtedly to represent abnormal processes of growth, in the one fatty tissue, in the other osseous tissue.

SYPHILIS.

Dr. Paul Gastou.—"History of Syphilis in France, Since Ricord".
Dr. Louis Wickham.—"Mercurial Injections in the Treatment of Syphilis".
Dr. Karl Touton.—"On the Treatment of Syphilis in Wiesbaden".
Dr. Anton Lieven.—"The Treatment of Syphilis at Aix-la-Chapelle".
Sir Alfred Cooper.—"The Zittmann Treatment of Tertiary Syphilis".
Dr. F. W. Mott.—"Syphilitic Disease of the Brain".
J. Ernest Lane, F.R.C.S.—"Serum Treatment in Syphilis".
Frank Cole Madden, M.B.—"Syphilis in Egypt".
Dr. Geo. F. Still.—"Syphilis in Children".
Walter H. Jessop, M.B.—"The Ocular Manifestations in Syphilis and their Treatment".
Dr. St. Clair Thompson.—"Syphilis and its Treatment in the Upper Air Passages".
Jonathan Hutchinson.—"A note on the Treatment of Syphilis. *The Practitioner*, July and August, 1904".

Yet another special number of the *Practitioner* appears, quite up to the standard of high merit which has marked the previous issues devoted to a chosen subject. This time we are enabled to review syphilis from the standpoint of several observers, and to see the advance made both in pathology and treatment.

In regard to the former aspect of the subject, many problems are yet unsolved, and this review has but little to offer which is not already well known to the profession. Although the attempts to inoculate lower animals have failed in most instances, Martineau and Hamonic, working 22 years ago, and Roux and Metchnikoff but recently, have succeeded in producing in apes, lesions, pronounced by Fournier, to be "specific".

The treatment of syphilis resolves itself into the administration of mercury and iodides, and the articles upon this subject serve but to show modifications in the administration of these essential drugs,—modifications in exhibition of the drugs as well as in their effectiveness, by means of mineral water, baths and diet.

There are twelve papers under review—all save one deal with *treatment*. It may be said, however, that Dr. Mott and Dr. Hill deal mainly with the clinical features and pathologic anatomy of the disease, as it affects the nervous system and as it is found in children.

We may now turn to study the subject matter a little more closely. Dr. Gastou's paper, translated from the French, points out amongst other things the facts:

1. That early in the 19th century any lesion appearing in a syphilitic subject was attributed to syphilis.

2. That for nearly half a century the sole criterion of the syphilitic nature of any lesion was the influence upon it of specific treatment.

3. That it was Rollet, who in 1854-69, first suggested the specific nature of gonorrhœa, and established the doctrine of "duality," while studying the mixed chancre; asserted that contagion was most often conveyed by secondary lesions, and particularly mucous patches, and proved that sexual intercourse is not the sole method of conveyance of syphilis.

Then the study of hereditary syphilis, often confounded with scrofula, was carried on by Chabaux and completely developed by Fournier in 1881.

The mode of transmission of the disease remained a question. Some attributed hereditary syphilis alone to maternal infection. The truth of Colles' law is nevertheless admitted. While contagiousness of the secondary manifestations is established, it is doubtful whether mucous patches can transmit the disease five, six or ten years after the initial lesion. The explanation of the syphilitic symptoms, so numerous and so complex, is sought in the study of the histological character of the lesions and in the disturbance of nutrition produced by the disease. Secondary infections doubtless influence to a greater or less extent the course and manifestation of the disease. It goes without saying that there continues, with respect to the treatment of syphilis, a full confidence in mercury and iodides. While "all roads lead to Rome," discussion prevails as to which enables one "to arrive" earliest and in the safest condition. Dr. Wickham is a strong advocate of the use of mercury by injections. He claims for the method: (1) the great advantage of sparing the stomach, and should it be necessary to give iodide, the stomach is ready for the emergency; (2) the more direct penetration of the mercury into the blood stream; (3) the more complete utilization of the dose administered .and (4) above all, the more exact dosage thus rendered possible. The same writer urges the necessity of adequate dosage, determined by the resistance of the patient. First given in small doses the drug induces slight reactionary fever and malaise which indicate the patient's resistance or the limit of tolerance. One should proceed with the remedy in doses which will not induce the reaction, increasing from time to time. He further urges more attention to the quantity of mercury in the preparation chosen, showing that calomel and biniodide of mercury stand at opposite poles of the compounds available, the former containing 84.9 per cent. the latter 44 per cent. of mercury, while corrosive sublimate contains 73 per cent.

The technique to be practical must be studied more in detail than is possible in a review. Suffice to say that Dr. Wickham usually injects preparation deep into the gluteal muscles at the point of intersection of the lines marking the transverse third with that marking the upper quarter of the buttock. The cyanide of mercury may be used intravenously.

In this article one finds the belief expressed that it is of great importance to *intermit the treatment*, thus preventing the patient from becoming habituated to the drug, a condition often lost sight of even by good surgeons. The *early* treatment with mercury is also advocated.

It is necessary at the very beginning, at the period of chancre to "strike hard." With this object, Dr. Wickham advises to begin the use of *daily* injections of biniodide during the first month. Then a rest of three weeks, followed by six injections of grey oil at five day intervals. Then the periods of rest are fixed at about five weeks. So that in the first year five months are devoted to treatment and seven to rest. In the second year he has four months of treatment and in the third year three months.

Between Wickham and Hutchinson there is a unanimous belief in the need and efficacy of early treatment. They admit that often it is impossible to be sure of the diagnosis, but in such cases where no doubt exists, Hutchinson advocates the prompt administration of the appropriate treatment. Touton, in his article from Wiesbaden, which will have further consideration later, warns his colleagues who may read his paper in the following words: "I cannot sufficiently impress upon them the importance of not beginning the mercurial treatment before the constitutional symptoms are evident, or the syphilitic nature of the inital lesion is established beyond all possibility of error, especially by the characteristic swelling of inguinal glands." At bottom there is no difference in the views of these clinicians.

Hutchinson administers mercury by the mouth; he does not do so because he thinks it more effectual, but because it is far more convenient; with respect to the length of time to continue the mercury he says: "I have formed very strong impressions in favour of continuous and very prolonged courses". He gives grey powder with Dover's powder, one grain each, three times daily, and if no diarrhœa is induced after a few days, the pill is given four, five or six times daily. "All soups, fruit and green vegetables are peremptorily forbidden," and the treatment is kept up for one year at least. At Wiesbaden and at Aix-la-Chapelle mercurial inunctions are freely used, and the effectiveness of the remedy is increased, as is believed by those at Wiesbaden, by baths and water drinking, a saline, sodium chloride,

water, while practically the same conditions obtain at Aachen, where the patients are subjected to alkaline sulphur baths and drink the sulphur waters.

The Germans criticize the English method of treatment, saying that in pill or in mixture the effects are slow in declaring themselves, and while the legitimate results are inadequate, the effects to be avoided are often induced. At the same time a great deal of the mercury is uselessly excreted by the bowel. It appears, on theoretical grounds at least, that the action of mercury is more pronounced in the presence of vigorous metabolism, and hence the ground for water drinking and baths. It is understood, of course, that patients under treatment in such "*Kurorts*" are strictly supervised in regard to every detail of hygiene, mouth, skin and bowels, food and habits, thus affording them most favourable opportunity for *elimination* of poisons, as well as fortifying them against such as may still linger in the tissues. In this, in part at least, is found an explanation of the prompt and satisfactory results of treatment.

The Zittman treatment is applicable to such cases of tertiary syphilis not amenable to the ordinary measures but only aggravated by them. It consists in eliminating the poison by sweating and purging. The course of treatment, carried on in a temperature of 80° F., lasts 14 days, and consists in a mild mercurial purge, two pills, a special plain diet free from sugar, fruits, starches, and the administration of two decoctions, consisting mainly of sarsæ roots, anise seed, fennel seed, leaves of senna and liquorice root, alum, calomel and red sulphide of mercury. The patient gets out of bed every evening for an hour, and on the fifth day has a hot bath. Then the treatment is continued, the pills, diet decoctions, etc.

The serum treatment has not been successful, nor are the present prospects particularly in favour of its becoming so.

Mott's experience has led him to believe "that syphilis is by far the most important cause of organic brain-disease in adults, and that it is one of the most weighty extrinsic factors in the production of insanity." He teaches that from 1 to 2 per cent. of persons with syphilis, suffer from cerebral symptoms, exclusive of parasyphilitic affections. The syphilitic virus may act in one of two ways. In the first place, one may find a specific inflammatory process of membranes and blood-vessels of the central nervous system separate or together, giving rise to degenerations of new growths (gummata), and in the second place, a lowering of the specific vital energy of the component cells of the whole body, or of those of particular organs or tissues. The lesions known as parasyphilitic, including malformation, arrest of development,

cachexia in early years, tabes and general paralysis. While all forms of syphilis may be followed by severe nervous symptoms, it seems to be a fact that the mild forms are particularly liable to be followed by the parasyphilitic affections. Hitzig has a theory that there are several poisons in the veneral infection, and that the soft sore is an infection with a poison especially injurious to the nervous system. As factors contributing to brain-disease in syphilitic subjects, Mott includes injuries to the head, alcoholic excesses of any kind and severe mental strain.

The subject is further considered under the following headings: Basic meningitis; meningitis of the convexity; cerebro-spinal meningitis; arteritis and neo-plastic formations and encephalitis.

In basic meningitis, there are generally profound arterial changes and gummatous masses in the brain substance. The cases closely resemble those of general paresis. Added to the nerve symptoms, e.g. of *optic nerve*, and *oculo motor*, especially the branch to the levator palpabræ and the sensory division of the fifth, are those psychical symptoms rather rare in simple meningitis. Recurrent attacks of drowsiness, stupor and coma, should always make one suspect syphilitic basic meningitis. Dementia, at one time or another is a constant symptom in all cases of severe brain syphilis, and variability of the dementia is especially characteristic. Delirium, moroseness, delusions of persecution, attempts at suicide, epileptiform fits, Jacksonian epilepsy may have their origin in syphilis. Recovery is with mental enfeeblement.

Syphilitic meningitis is always associated with changes in the arteries, but arteritis may occur without meningitis. The inner coat is specially involved. The lumen of the vessel is narrowed and not necessarily thrombosed. Headache is common, sleeplessness, irritability and mental weakness are significant. Transitory aphasia is often one of the earliest symptoms, indeed, transitoriness with recurrence, are very characteristic of the symptoms, till finally a more or less settled condition is found, wherein partial or total mental incapacity, associated with paralysis, is the chief feature. The failure of the therapeutic test to improve patients should not be regarded with surprise by one acquainted with the anatomical conditions at the bottom of such symptoms.

That portion of Dr. Mott's paper dealing with the pathology of cebro-spinal syphilis is of special interest.

The process is essentially inflammatory, affecting the mesoblastic tissues, usually the meninges or the vessel walls. The parts affected are those where the cerebro-spinal fluid exists in abundance, although the ventricles are not affected as the ependyma of the ventricles is of epiblastic origin. The arteries are specially involved and often become obliterated.

The veins are affected as well but rarely closed up. The perivascular lymph spaces are also involved, and circulation of both blood and lymph is greatly interfered with. This leads to altered nutrition of the cells in the surrounding brain tissue, and a process of inflammatory œdema is set up. Thus it may be seen that the venous stasis, and the distension of perivascular lymphatics and ventricles, by altered cerebro-spinal fluid play a very important part in cerebral syphilis. Dr. Mott believes the brain lymph has an excess of carbonic acid, nucleo-albmous, products of degeneration, etc. Nutrition is largely denied the nervous elements, while they are at the same time surrounded by a pathological fluid. The functions of that part affected is in abeyance. If more widespread we have a ready explanation of stupor, dementia, etc., and if the external conditions acting on the nerve cells are withdrawn, before the cell dies, function may be restored. Hence, the disappearance and reappearance of symptoms in syphilitic disease.

Syphilis in Egypt is bad, on account of the popular ignorance and superstition, universal filth and prejudice against treatment. Extra-genital sores are not uncommon, being found on the lips, mucous membrane of the mouth, abdominal wall from shaving pubic hair, within the anus of young boys, the result of "unnatural vice." A religious difficulty confronts those who would treat congenital syphilis. It is considered wrong to allow water to touch the skin of a child during the first year of life.

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OPENING ADDRESS: McGILL MEDICAL FACULTY, 1904.

BY

A. C. ABBOTT, M.D.

Professor of Hygiene, University of Pennsylvania.

Members of the Faculty and Students of McGill University:—

I deem it a very great honour to address you on this auspicious occasion. In bringing to McGill the greetings of Pennsylvania, I am, I trust, but strengthening the bond of mutual admiration and respect begun years ago through the instrumentality of your distinguished alumnus, our beloved Osler.

While delighted to be your guest this afternoon, I am not unmindful of my responsibilities, and stand upon this rostrum from which so many eminent speakers have addressed you, with certain feelings of reserve and timidity. To appear in the capacity of adviser to so large a body of plastic minds is indeed no trivial matter.

Gentlemen of the student body; the field you have chosen as the one in which to expend your lifes' energies is many sided. It is replete with inviting avenues and vistas that appeal to each of us in a different degree, and on an occasion of this kind I fear there is often a tendency to paint in too glowing colours the beauties of this or that phase of our profession that may appeal to us, as individuals, most strongly.

In preparation, then, for what I shall have to say, for I am sure to be biased, let it be fixed in your minds that no matter what direction you may take, when traversing a narrow path, you are much more certain of reaching the desired goal if fully familiar with the lie of the surrounding land.

As you are doubtless aware the modern tendency in all big enterprises is specialization. In medicine, as in other pursuits, it is the order of the day, and for the full development of the subject it is doubtless the best order, but it is killing to the individual if begun too early in his career, if begun before he has acquired a firm, broad foundation.

I sound the note of warning because of the attractions offered by many of the special departments of medicine under conditions of modern

development; and because of a tendency to encourage the election by students, more or less early in the course of their education, of such subjects in the curriculum as appeal most strongly to them, or as seem to be of most immediate importance in their relation to the special work to which they intend ultimately to devote themselves.

If it is your desire and intention to utilize your profession for the sole purpose of deriving income from it, you can acquire sufficient information upon one or another of the special subjects to do so, with the expenditure of comparatively little energy, but you will probably not rise much above the level of mediocrity. If, on the contrary, you aspire to become a broadly educated physician, whose councils will carry weight in the professional deliberations of your colleagues, your course at the start must be a very different one, even though it is your intention to devote yourself to special work later on in life.

To the men entering the school for the first time, the subject of medical education possesses but few attractions. They are unacquainted with the progressive development of medical instruction or the reasons making this development desirable. They have never had occasion to concern themselves with these reasons. They glance at the roster of subjects and sometimes wonder why it is necessary for so many subjects and so many hours of work to be demanded for the doctor degree. This was not formerly the case. In the "good old times" two courses of lectures of four or five months each sufficed for the purpose. Why will it not do now? Quite true; but such instruction is neither in quantity nor quality sufficient for the demands of the day. Medicine has grown from a state of more or less empiricism to the dignity of a broad biological problem, with all that is thereby implied; and in consequence, for an intelligent understanding of the manifold ramifications of this problem, the educational equipment of to-day is of necessity very much more elaborate than that appropriate to the demands of but a few years back.

The transition from the old to the new was not suddenly made. It was of gradual growth; one subject after another being added to the course as the newer conditions and developments demanded; until at present, though very much expanded, there is not a subject in the modern medical curriculum that was put there before it was plain that a knowledge of it is essential to a correct understanding of the newer problems of medicine.

What is regarded as the education that insures to the student a general groundwork in Medicine?

The detailed reply that would have been made to that question

fifteen or twenty years ago differs so materially from that made to-day, that one would scarcely regard it as applicable to the same subject. It is true we have in the course now as then, Anatomy, Chemistry, Physiology, Pathology, and the Clinical Branches as fundamentals, but the problems of the day, inspired by new light from a variety of sources, differ so materially from those of a few years back, that not only have new subjects been added but there has been an appropriate remodelling, shifting about, and readjustment of relative values among the older subjects.

For instance:—not very long ago the chemistry of the medical curriculum differed little, if at all, from that given in the ordinary college course. There was no reason why it should. There was no demand for anything else, and as then taught, I think it of very doubtful value to the medical problems of that time. But as we learn more and more of the phenomena of life, we discover that for an understanding of them, a chemical knowledge is essential, but to this end the antiquated instruction in inorganic reactions is scarcely appropriate. As a result it is becoming the opinion of many that general chemistry, as usually understood, has no place in the medical curriculum; that the student should possess such knowledge before he enters upon his medical studies, and that while in the course such chemistry as is taught him should be susceptible of application to the riddles of life processes, *i.e.* it should be physiological chemistry that can be used in the elucidation of questions that in Medicine, Pathology, Physiology and Bacteriology are occurring daily. But it is obvious that this suggestion, desirable as its adoption may be, can be put into successful operation only when the student entering the school is equipped with a fundamental knowledge of general Chemistry.

The advent of Bacteriology as a medical subject had a phenomenal influence. Its fundamental importance to an unerstanding of clinical and pathological phenomena demanded at once a permanent place for it in the regular course of study. Not only this, but it demanded that it be taught in such a manner as to give to the student a reliable practical acquaintance with it. This was only possible through the installation of laboratories, equipped with microscopes and other apparatus necessary to the conduct of the work. The student became acquainted not only with the microscopic world, of so much importance to life, but learned incidentally the use of instruments of precision. All this required time, and further revisions of the roster became necessary to supply it.

Through the stimulating influence of bacteriology, Pathology developed rapidly from an objective, morphological study into one suscep-

tible of the most diverse, fascinating, and instructive experimental inquiry. In consequence, the position of Pathology in the curriculum and its relative value as an educational subject has undergone a material change. From a brief course of didactic lectures with diagrams and post-mortem demonstrations, confined often to but one year in the course, we now find this teaching extending over two, and in some cases three years, and occupying in the neighourhood of 250 hours. Under competent direction we find it taught from the general and special aspects and on all sides are impressed by the elaborate equipment provided for its practical teaching in the laboratories and mortuaries.

The outcome of this development demonstrates the wisdom of all that has been done to foster and encourage it. We are now familiar not only with the anatomic alterations peculiar to various morbid processes, but in many instances with the agents by which they are caused, and in a few cases with the mechanism through which the living causative factors operate.

We have discovered that many diseases to which man is liable may be reproduced in susceptible lower animals more or less faithfully, and in this manner it is possible to observe the phenomena of disease from their inception to their termination.

Important as the advance may be it is not yet satisfactory. It is necessary to completion that we know the intimate mechanism by which living micro-organisms cause such changes. That the alterations of structure are due to detrimental substances associated with or eliminated by the living parasites is certain, but as yet our knowledge of them is very limited. We know they are present but we know little or nothing of their nature or the manner in which their presence results in the destruction of tissue or the interruption of normal functions. Here again presents a modern problem demanding altogether a new chemistry, or possibly a new application of familiar reactions.

Not less manifest is the influence of Bacteriology upon the development of another phase of modern medicine. As the clinician and the pathologist pursued their several lines of investigation, it soon became obvious that a great many common pathological processes result from bacterial invasion, and that when this invasion has occurred two important facts are apparent, viz:—first it is questionable if, by therapeutic means, as ordinarily understood, it is possible to check the course of events by destroying the exciting agents in the infected body and, second, that in the course of many such infections, the exciting agent is eliminated from the body in a living condition.

Reflect for a moment upon these facts, for their significance is far reaching. If the patient cannot be restored to health by the disinfec-

tion of his organs, and if while ill he is throwing off into his surroundings living agents, capable of reproducing and perpetuating the disease in others, what is to be done in the matter?

Through elaborate investigations, along lines that cannot be discussed at this moment, it was found that every living body is endowed by nature with weapons of defense, more or less capable of protecting the body from harmful micro-organisms, and that by appropriate therapeutic measures these natural defenses, if not susceptible of increase, may be supported, so that though invaded the body has still a chance to bring about its own cure. In brief, there are some diseases that the Doctor does not cure,—he helps nature and she cures them.

In the meantime a host of investigators were occupied in studying these exciting factors when thrown off from the living body. They found them capable of life outside the body; capable of infecting other bodies to which they might gain access; capable in some instances of multiplying under special environment; but of most importance, easily destroyed by a host of substances that might be applied to them, *i.e.* by germicides. This being the case it is plain that diseases of this class should be to some extent, preventable by isolation and by the destruction of all morbific agents arising from them. In other words, we see some of the beginnings of what has developed into the medicine of the day, viz:—Preventive Medicine.

These facts, together with others of equal importance that developed rapidly, shed a new light upon the problems and conceptions of the sanitarian. He realized that the origin, spread and management of infective disease were to be viewed from a new standpoint. He saw that many hitherto obscure questions of transmission or of prophylaxis were susceptible of solution by trustworthy practical methods, so he at once demanded laboratories in which such methods could be applied and, as in the case of his colleagues, the pathologist and bacteriologist, he got them. But, you may inquire, have the developments in these purely experimental fields been productive of good commensurate with the cost?

With all due deference to the marked achievements in the clinical branches, it is safe to say that the triumphs of modern medicine originated with and were developed by the laboratory workers. In this connexion need only to be mentioned the ultimate outcome of a line of investigations begun with Pasteur's observations upon sick chickens, passing to the successful vaccination of live stock against the ravages of anthrax, and culminating in the discovery that in the blood of an animal recovered from diphtheria intoxication, there is a substance having the power not only to prevent diphtheria in man but, when

properly used, to reduce the death rate from this terrible malady about 50 per cent.

When you are impressed by the brilliant victories of modern surgery and behold with awe the ruthless but successful invasion of the vital organs and cavities, remember that all this was made possible only through the guidance afforded by laboratory investigations upon wound infections and the means of preventing them. When you are told that typhoid fever can be practically eliminated from a community by the adoption of appropriate measures for water purification, remember that the development of such methods was directly dependent upon laboratory aid.

In our understanding of the factors responsible for the existence and spread of the so-called miasmatic diseases, and the development of means for their elimination, the achievements have been no less remarkable. One of the most dreadful scourges of tropical and sub-tropical America is yellow fever; a malady costing many lives and much treasure annually; a continuous menace to the operations of commerce, and a foe whose invasion is so subtle and mysterious that the people living within the zones of its epidemicity are in a constant state of disturbing apprehension; yet the ingenious researches of Reed and his associates have robbed this disease of practically all its terrors.

It is true that this cannot strictly be regarded as a laboratory investigation, but it is a significant fact that both Reed and his fellows were special laboratory workers, and I do not believe the result would ever have been accomplished had they been without a firm foundation in the scientific methods of approaching their problem.

The outcome of this work was the conversion of Havana, Cuba, formerely a hot-bed of yellow fever, with thousands of cases and hundreds of deaths annually, into a city from which the disease is practically absent. Nor is this all. By demonstrating that the disseminating medium of this disease is a familiar insect, the means of prevention are plain and easy of application. We see that the elaborate systems of maritime quarantine against a mysterious foe, established and maintained at a cost of millions annually, are in very large part unnecessary.

This work on yellow fever, with the analogous studies on malarial fever, and a group of other parasitic infections transmitted by insects, aside from their intrinsic importance, suggest the desirability of our keeping before us the possible role of insects in the transmission of other diseases on which our knowledge is at present but scant. Far be it from me to suggest that another subject be added to the already overcrowded curricula of our schools, but I take this occasion to hint

that as a profitable pastime the acquisition of a little knowledge of entomology, particularly as it concerns the blood sucking insects, may ere long stand you in good stead.

Probably the most important influence in the elaboration and prolongation of the medical course is the tendency to depart from the old didactic methods of teaching. Knowledge gained through immediate personal contact with objects themselves is everywhere conceded to be more lasting, more serviceable, and more impressive to the student than that derived from the mere reading of books or the hearing of lectures. Practical work is the order of the day; in the hospitals; in the dispensaries; in the laboratories, and the intelligent student about to matriculate is now careful to select only that school offering the maximum of facilities for practical study. All this takes time: all this takes energy; all this takes money. Where formerly a topic in physiology, for instance, was presented to a group of, say, one or two hundred students in a single formal lecture, to-day that topic, if susceptible of practical treatment, is presented in elaborately equipped laboratories to small groups of fifteen or twenty students, who enjoy the individual attention of trained instructors. Under such conditions the student, through direct contact with things and personal observation of phenomena, acquires for himself the knowledge formerly gleaned from books or filtered down to him by word of mouth. It is needless to discuss the relative values of the two systems of teaching, or of learning.

In the clinical branches the same tendency is everywhere manifest. The student does not desire so much to hear about sickness as to see it for himself, and the modern teacher is equally anxious that he should do so.

These developments of methods and ideals that I have brought to your notice in a very cursory way have, however, a very serious defect that is sometimes difficult to remedy. They increase the cost of medical teaching enormously without at the same time contributing materially to the income of the school. But, we may ask, is not the income of the school increased by the additional number of students attracted by the newer facilities? Yes, the income is increased, but there is a corresponding expenditure for each additional student, so that, the quality of teaching remaining constant, there will be nearly the same ratio between income and expenditure with a large as with a small class. That is to say, there will be a loss on each student. I daresay that the majority, probably all, of our first class medical schools spend annually on the education of each student more than it receives from him. Moreover, the minute the life of a medical school becomes

dependent solely upon its income from students, that minute is the school in business; and if it attempts to give to the student the kind of instruction demanded by the time, it is in very bad business, for it cannot do it with its available income. To maintain its income it is forced to get students; if it cannot attract them through educational advantages equal to those of other schools more fortunately circumstanced, financially, it must attract in another way—this too often means by the offer of an easy road to the degree.

To do the best work; to give to the country physicians competently equipped to practice medicine; to encourage investigation upon topics of vital importance to the public health, our modern medical schools are constantly in need of financial aid.

That these needs are appreciated, that the reason for their existence are regarded as sound, and that they are sure to be alleviated by public-spirited citizens possessed of the means to do so, is already made more than probable by the splendid gifts to your own school, to Harvard; to the University of Chicago; to Johns Hopkins; to Pennsylvania and to other institutions that might be mentioned. I know of no service more philanthropic than the supplying of means whereby men may be trained to save life and prevent suffering. Notwithstanding the care and consideration that has been devoted to the development of a harmonious group of subjects properly constituting a course in medicine, there is still a phase of medical work that has not, on this continent at least, received at the hands of our educational institutions the attention that its importance warrants.

The value of our medical schools to the welfare of the public would, I maintain, be very greatly increased were special facilities provided for the proper training of men intending to enter the public service; and the functions of the public service would be much more efficiently and thoroughly performed were our graduates formally and regularly impressed with their responsibilities and relations to it.

It is true, these constitute special phases of medicine, but in their objects and aims they are of such a comprehensive nature and mean so much to the efficient administration of preventive measures that I regard it as high time that they be given more consideration.

In the several arms of our public service, represented by the army, the navy, the Marine Hospital and the Quarantine Corps, almost the first preparation for his duties that the surgeon receives after admission to the service is instruction in matters of practical sanitation. In our municipal Boards of Health, physicians and laymen are to be had in numbers for the performance of the manifold duties, but beyond a little book knowledge on hygiene, most of these men, able and qualified

as they may be in other directions, know little of the practical work for which they are employed, and, as in the other public services, it is essential that they be carefully trained at the public expense before they are of value to the administration.

Upon everyone officially identified with state medicine the importance of this matter is constantly impressed. To be held responsible for the prevention of sickness and the saving of life, and to know that for the performance of the duties either untrained or only partly trained allies are available, is indeed no enviable position, and yet such are the conditions under which much of our public health work is done. So far as I have been able to observe, the defects are not of the heart, but of the head and hands; for a more willing, earnest and, usually, underpaid group of enthusiasts than those identified with our public health work would be difficult to discover.

Those of our medical schools affiliated with universities or constituting organic integers of them have at hand the remedy for this defect in many instances. In the chemical and bacteriological laboratories special, practical courses designed for the public health official could readily be organized. In the veterinary departments the approved methods of preparation and the necessity for rigorous inspection of food stuffs of animal origin could be taught and demonstrated. In the engineering schools courses designed particularly for the practical sanitarian might be instituted. Between the zoological and pathological departments information upon the life processes and the effects of the animal parasite could be supplied; through the law school lectures upon law, especially as related to registration of vital statistics, nuisances, epidemics, quarantine, construction of dwellings, protection of water courses, disposal of sewage, etc., could easily be provided; through the use of the public hospitals for contagious diseases the student could be given the opportunity of seeing these maladies as they are, instead of hearing about them by word of mouth or reading about them in books, as is now too often the case; and from the special chair of hygiene, state medicine or public health, as it may be denominated, the outcome of these several lines of study may be correlated and their influence upon the great problem of preventive medicine directly shown.

After a special course of study along some such lines as these, the approved student should be formally rewarded by the institution with the official seal in the way of a degree or a certificate of proficiency.

I believe were this matter taken seriously by our influential schools, the movement would become general wherever practicable, and I know that by this plan, and this only, can our public service be regularly recruited with men having an intelligent appreciation of the work before them, and the practical ability to do it on demand.

That the results, as exemplified by improved administration, will fully compensate for all expenditure of capital and energy, I do not for one minute doubt.

In connexion with my second criticism, viz., that we do not sufficiently impress our students with their relations and responsibilities to the public service, I shall, before taking my seat, address a few remarks to the senior class. At the end of the academic year just beginning you leave your Alma Mater as qualified doctors of medicine. You will then pass successfully through the ordeal of an examination by your Provincial Board and be licensed to practice.

I suspect, in so far as most of you are concerned, you will by that time regard yourselves as entirely independent, free to pursue your own courses, with responsibilities to only yourselves and your patients. This is the point on which I wish to set you straight. When you are granted your license, your name and address will be officially recorded at an appropriate bureau, and, whether you wish it or not, you become from that moment a part of the public health administration of the district. Your central and local governments, knowing that you will be in possession of facts vital to the correct estimation of the movements of population, press you into service. They request you to furnish regularly and promptly an account of all births and deaths occurring in your practice. It considers knowledge that will be possessed by you of such fundamental significance to the correct administration of preventive measures, that it looks to you to communicate with utmost promptitude a full account of all dangerous, transmissible diseases brought to your notice. If you are a good citizen, concerned for the welfare of the community of which you form a part, your duties in these respects will be performed with intelligence, willingness and despatch. If you are not, they will be performed just the same, but under legal compulsion.

Now, let us spend a moment upon the reasons for these requests, for I have observed that willing service is more often obtained from those acquainted with reasons for the requests than from those ignorant thereof. The ultimate object of state medicine is preventive, *i.e.*, its function is to lessen sickness and prevent deaths by improving the conditions under which the people live. The progress of this effort is measured by the degree of improvement in the public health, as shown by the general vital statistics of the locality. You are to supply the data from which these statistics are compiled.

Upon special features of the work, as, for instance, in the checking of epidemics or the detection of local conditions that predispose to disease, special information is needed; you are asked therefore to supply

a detailed account of all transmissible diseases with which you are professionally occupied, in order to determine if these are more common to one locality than to another, and to co-operate with the authorities in their efforts to prevent them. In the routine work of health boards the co-operation of the private practitioner is absolutely essential to success. He is looked to for the information that will indicate to the authorities where their efforts at prevention are to be expended. His concealment of a single case of contagious disease, whereby the authorities are prevented from exercising the necessary precautions to prevent its dissemination may, and often does, result in sickness and suffering among others.

In the rural districts of a number of our states there is no systematic registration of sickness and deaths, and in consequence dangerous epidemic diseases often occur in one locality or another without anyone beyond the infected focus being the wiser. Such are often districts on which the cities depend for their food supplies, and when these comprise such favourable vehicles for the propagation of contagion as dairy products, you can readily understand what this means to those receiving the commodities. A case in point—during the last autumn my attention was called to a more or less severe, but circumscribed, outbreak of typhoid fever in a part of Philadelphia. Inquiry revealed the fact that the district had been in large part supplied by milk from a farm on which during the three or four weeks preceding the outbreak there had been five cases of typhoid fever in a family of seven souls. None of these were reported during the time of their illness. Had they been it is readily to be seen how easily suffering, to say nothing of monetary loss, could have been prevented.

In your present frame of mind, your aspirations are doubtless to acquire a practice, earn an honest living, and, through intellectual growth, become distinguished in your profession, an ornament to society and a credit to your school. This is all as it should be, but I wish to say there are other things to be kept in mind—you are not only to be doctors but also citizens, and as such should concern yourselves to some extent with public questions; more so, I maintain, than has been the custom with physicians in the past.

Just now there are matters before the people of this country and the United States that are of fundamental importance to the public welfare, and are to be settled only by the most untiring and intelligent public effort. The question of water supply and sewage disposal; that of suitable sanatoria for the housing of destitute persons affected with tuberculosis; that of modernly equipped hospitals for the reception of contagious disease; that of authoritative sanitary control of food supply;

that of facilities for the efficient management of epidemics, and that of systematic registration of vital statistics in our rural, as well as urban districts, are the most burning.

These problems are only to be satisfactorily solved when their importance is fully understood by the people to whom we look for the material means of solving them. There is no individual in the community whose influence for good in these directions is greater than that of the family physician. His intimate contact with the people affords him the opportunity to educate, and his councils go far in deciding them how to act.

I trust that as good citizens, as well as good doctors, you will use your influence for these ends to the best of your knowledge and abilities.

PRESIDENT'S ADDRESS.

CANADIAN MEDICAL ASSOCIATION, VANCOUVER, 1904.

BY

SIMON J. TUNSTALL, M.D.

I feel that my first duty to-night is to offer you my very hearty thanks for the honour you have conferred upon me in electing me President of the Association for the ensuing year.

When I recall the names of those who have preceded me in this chair I can only ask your indulgence for the deficiencies you may find in me, of which I am very conscious, and express the hope that under my presidency, the interest of the Association may in nowise suffer nor its honour in any way be tarnished.

The present occasion is no ordinary one. In the appointment of a President from among the members of the Association whose home and work lie in this far distant portion of the Dominion, and in our meeting here to-day at the doorway of the West, a new departure has been made.

I am far too modest to suppose for an instant that any particular merit of mine has induced the Association to make this departure; rather I conceive it to be due to a general recognition of the claims and standing of the western members as a whole, and of the growing importance of this fair western province.

I should be performing my duties but poorly did I not seize this early opportunity to thank you on behalf of my western confreres, and on behalf of the people of this province in general, and of this city in particular, for the compliment you have paid us in selecting this province and this city as the place of meeting for this year, and I feel I am only expressing their wishes in tendering you a hearty welcome to

our midst, and their hopes that your brief stay among us will be both pleasant and profitable to you all.

To many of you, probably to most of you, the rapid progress and general development of this young province will come as a surprise. It does to most of our visitors from the older parts of the Dominion who know not how recent has been the settlement of the west! And certainly looking round one, it does seem scarcely realisable that the site of this rapidly expanding city, of which its citizens are so justly proud, and this very spot on which this building stands, surrounded by so many comforts and refinements of modern life, was less than two decades ago a wild and almost impenetrable virgin forest, the haunts of the bear, the deer, and the primitive savage.

It is less than a score of years by two that the incorporation of this city took place, and yet to-day it will compare favourably with many cities in the older provinces twice and thrice its age. From the medical standpoint it is reaching after a high ideal.

The incomparable water supply which is brought in closed steel conduits from the bosom of the mountains to the north of us, the sewerage system with its septic tanks that deliver their effluent into tidal waters, the paved streets with their array of cleaners, the cement sidewalks which are now throughout the city rapidly replacing the earlier and cruder planking, the public and private hospitals, the General hospital which is now being built and which when finished will be the peer of any hospital of its size, all make it clear that we are endeavouring to keep abreast of the times as well in sanitary as in other matters.

It is no idle boast then, if I say that in the west events move rapidly. Time is no sluggard here, and we see history fashioning itself before our eyes. The whole of this great province was in undisputed possession of savage aborigines a half century ago. The closing years of the first half of the nineteenth century saw the first real settlement made on Vancouver Island at a place called Camosum in the native tongue, now Victoria, the capital of the province.

A few years later, in 1858, an Act was passed in the Home Parliament to provide for the government of this new colony, thereafter to be known as British Columbia. From this date the real settlement of the Province begins. The discovery of gold in the Fraser and Cariboo soon made these districts as famous and as widely known as Sacramento or Ballarat, and a great inrush of population was the result. But a very few years later the conception of that colossal and momentous undertaking, the building of the Canadian Pacific Railway began to shape itself in men's minds and was finally carried out. You are all doubtless familiar with the history of that great undertaking and

know the almost insuperable difficulties its earlier promoters had to contend with, and how in the end, in spite of political, natural, and every other obstacle and hindrance, they successfully carried through the scheme and made possible the union of British Columbia and the great North West with the rest of Canada, and gave us as a result that splendid heritage, that united land which stretches from ocean to ocean, from the rising of the sun to the going down thereof—a land of which all her sons and daughters are so proud—our beloved Canada.

It is gratifying to our profession to know that it has been ably and honourably represented among these history makers in the persons of Drs. Helmcken and Tolmie who were the first medical men to settle in the colony, about the middle of the last century. Both took prominent part in the earlier events of the province. The former still remains among us; the latter has gone to his rest. Prior to their advent the native medicine man had it all his own way.

There is a significance, not without interest to my mind, in the fact that this Association, representing as it does to-day in its various members the highest medical knowledge of this enlightened period of the world's history, should meet here in this new country where Shamanism, or the cult of the savage "Medicine Man" so recently prevailed and does to some extent still prevail. The old and the new order of things are thus brought into suggestive contrast and juxtaposition, and we are led naturally to reflect upon the stages and steps we have passed since the days when all medical knowledge was comprised in the superstitious and rude practices of our savage prototypes, and in spite of our sometime failures and our lack of knowledge, still in certain directions the reflection on the whole is a pleasant and gratifying one both to ourselves and humanity at large. It certainly would not be the least interesting of subjects were I to attempt on this occasion a general survey of the march and progress of Medical Science from the days and practices of the primitive Medicine Man as we find him even in this province, down to the times and discoveries of Lister, Pasteur, Virchow and their followers.

But it is not my intention to undertake such a task to-night interesting and appropriate as it might under the circumstances be, although I cannot leave the subject without calling your attention briefly to a fact of which all of you may not be aware and which gives pertinence to my reference to the old time Shaman or Medicine Man. We are all familiar with hypnotism, but there are few of us perhaps aware that in the employment of hypnotism as a therapeutic agent we are returning to primitive methods, to the practice of our savage prototypes. Those who have made special study of the practices and customs of savage

races inform us that the primitive doctor, or "Medicine Man" was not that self-conscious fraud and humbug knowingly duping his credulous patients he is commonly thought to have been; but a person who had a real belief in his own powers and cures; and that those powers and cures were, when genuine, generally, if not always, attributable to hypnotism, especially to that phase of it known as suggestion. A state of hypnosis was induced in his patient by the monotonous droning of his medicine song and the noise of his rattle, and when in this condition his attempt to extract the spirit of the disease from the patient's body, and his statement that he had presently accomplished it, acted suggestively upon the imagination of the patient and effected his cure. "Extremes meet," and there is nothing new under the sun, we are told, and the school of Nancy, which is founded upon the suggestive phase of hypnotism is not a new practice but an unconscious return, or rather I should say, it is an unconscious modification and extension of these primitive methods which were in vogue among our savages here up to a few years ago, and may be to this day for aught I know to the contrary.

But enough on this head. It is my intention rather to bespeak your consideration to-night of a point or two which I, in common with many of the members of the profession, have very much at heart, and which I deem of such importance as to merit our most careful consideration and endorsement.

I have reference in particular to:—

I. The Canadian Medical Protective Association;

II. The Federal Health Bill;

III. The Dominion Medical Council;

IV. The Treatment of Inebriates.

With regard to the first, The Canadian Medical Protective Association, I would desire to urge upon members the strong claims this Association has upon the profession. I am among those who believe in the need of such an Association, and that it may be made a valuable means of assisting and protecting members of our profession from wrongful actions-at-law, to which we are all of us at all times liable; actions brought by irresponsible persons for alleged malpractice, or by unscrupulous persons for the purpose of obtaining money under threats of injury to our professional character.

It is well known that a medical man's professional prospects depend to a very large extent, if not entirely, upon his professional reputation, and it is not difficult, therefore, for unprincipled persons to attempt to levy blackmail upon him by threatening to bring action against him for malpractice or professional incapacity, which action, though wholly groundless and undeserved, may have the most disastrous effects upon his career and pocket.

During the past two years the Association has fought out several such cases successfully, and has amply demonstrated its usefulness and justified its existence. It is, therefore, a matter of wonderment to many of us that the Association has thus far received so little encouragement or support from the profession as a whole. Out of a possible 5,500, the total membership last year was only 252. This is altogether too small a number to make the aims and work of the Association effective, or sustain it in a solvent condition, and I welcome this opportunity to invite your earnest co-operation in enlarging its membership and strengthening the hands of the executive, and would to this end suggest that a special committee be struck during the convention for the purpose of considering how best to enlist the sympathies and support of our brethren who are not yet members. I cannot but think that a large increase in the membership must inevitably result if the aims of the Association be at once rightly understood.

The objects of the Association are such as all can subscribe to. It is not intended to defend or assist in defending unworthy members, or those who are actually guilty of malpractice, or who have brought discredit upon the profession. It aims rather to assist the worthy, those of its members who are wrongfully charged and whose character and reputation are placed at stake; and also to deter irresponsible and unscrupulous persons from bringing action against members of the profession for the purpose of spiting or injuring them, or of exacting a bribe for their silence; and it is only by uniting ourselves together in such a way as this Association offers, that we can hope to secure the support of our brethren and become immune to many attacks which would otherwise be made upon us.

I feel therefore that we have but to devise some plan of arousing the interest of our brethren in the matter to ensure their support and co-operation.

And now a word or two as to the Federal Health Bill. Thanks to the energetic efforts of the special committee appointed to attend to this matter, considerable progress has been made towards the attainment of our desires in this behalf. The interest and sympathy of the Ministers of the Crown have been secured, and the Minister of Agriculture, the Hon. Mr. Fisher, under whose department the matter more directly falls, has taken the matter up most courteously and is thoroughly alive to its urgency and need. For the information of those not familiar with this subject, I would briefly say that the Association at its meeting in Montreal in 1902, placed itself on record by resolution to the effect that it is expedient that a Department of Public Health be created by the Dominion Government, and administered under the authority of one of the existing Ministers of the Crown, thus bringing all general

questions relating to sanitary science and public health, under one central authority to be known as the Public Health Department. There is no need for me to dwell upon the importance or desirability of this step; it must commend itself to every member of the profession.

Thus far, the Government has not seen its way to grant the desired measure. The work is not yet accomplished and the need of pushing the matter still exists. I sincerely hope the meeting will not dissolve without first passing a strong resolution in favour of the measure, and thus encourage and strengthen the hands of the committee who have this work in hand.

And now I desire to touch upon my third point, which I regard as of the highest importance. I refer here to the Dominion or Canada Medical Act, which was assented to in the Federal House in 1902. We are under a deep debt of gratitude to the members of the Special Committee, and especially to Dr. T. G. Roddick, for his untiring efforts to get this measure placed upon the statutes of the country, and it is with great regret that I notice so much misapprehension as to the scope and powers of this Bill still exists in certain quarters. It has been thought that it would encroach upon the rights and privileges of the different Provincial Medical Boards and interfere with their autonomy, and I gladly hail this opportunity to say a few words which may help to remove this misapprehension. It was, and is, not in any way intended to interfere with existing provincial rights, or intrench upon the prerogatives of Provincial Medical Boards. As for instance, in my own native province, Quebec, our French speaking brethren will have the right of examination in their own language.

Provincial registration and Provincial Boards will still continue to exist, and each province will be at liberty to fix whatever standard it pleases for its own practitioners. They can, where they wish, continue as examining boards, with power to grant provincial licenses, *as they do now*, and in any case, in their hands will be left all matters relating to taxation and professional discipline.

The Bill is a purely permissive one, and though it has been placed upon the statutes of the country, it will be necessary, before it can become operative, to have the consent and co-operation of all the provincial Medical Boards. Each provincial Board will have to seek a slight amendment to its present Medical Act. This is all that is now required to make this most desirable measure effective, and I sincerely trust that this consent and co-operation will not long be wanting, for the aims and scope of this Act are such as should commend themselves to every member of the profession. Briefly, I would say that the main purpose of this Bill is to establish a Central Medical Council of Canada,

with power to examine candidates and grant licenses, the possession of which will ensure to the holders thereof, such a medical status as will enable them to practice not only in all parts of the Dominion but in the United Kingdom as well, or indeed in any portion of His Majesty's Empire, in short, to do away with those mortifying disabilities under which a medical man trained in Canada now labours, and put him upon a footing of professional equality with his brethren in other parts of the Empire. This is assuredly a laudable and most desirable object, and one which, in my humble opinion, should call forth the best efforts of each one of us to bring about its accomplishment; and I sincerely trust that some concentrated action will be taken in this matter before the meeting closes.

It is the least, I think, we can do to show our appreciation of the strenuous efforts exerted in securing the passage of so important a measure.

This brings me to my fourth and last point:—"The Treatment of Inebriates." A conviction has been steadily growing in the minds of most medical men of late years that something should be done for the care and control of dipsomaniacs and inebriates, in the form of founding establishments combining the main features of an hospital and an insane asylum, where drunkards could be legally confined under medical authority, and treated in a systematic and enlightened manner. The practice hitherto of treating them as criminals subject to a fine or short periods of confinement in the common prisons of the country has been shown to be wholly unsatisfactory, and often productive of the greatest evil to themselves and those who may be dependent upon them.

There can be no doubt, I think, that the care and treatment of those unfortunate members of society, is a question of the gravest and most vital importance and should command the interest and attention of medical men as a subject, which, coming well within their province, affects so seriously the general commonwealth.

A movement towards this end has already been taken in Ontario, and a Bill drafted, the principles of which have received the endorsation of the Toronto Medical Society, and also of our own Association; but what we want is a Dominion Act, affecting the whole country, and it would be the source of the greatest satisfaction to me if this meeting would take this question up seriously, and nominate a committee to draft a measure that could be submitted to the Federal authorities. This could be done either on the lines of the Ontario Bill or any others that might commend themselves.

Speaking personally, I may say that I shall be only too glad to help in drafting such a measure and giving any other assistance in my power.

For I am convinced that the adoption and carrying out of the provisions of a bill of this kind will do much to diminish the volume of sickness, pauperism, vice, and crime, that now stains the annals of our country, and restore to lives of usefulness and self-respect many of those poor unfortunates whom it is the design of such a measure to control and help.

Before closing my address, I wish to express to our visiting brethren my appreciation of the kindly feeling and interest which have actuated them in taking part in the deliberations of our National Association and to hope that their stay may be fruitful of pleasant reminiscences.

And now, Gentlemen, I must thank you for your kind reception of me as your President this year, and for the patient and courteous hearing you have given to my remarks, and trust that the suggestions I have ventured to offer may meet with your approval and receive your support.

ADDRESS IN MEDICINE

CANADIAN MEDICAL ASSOCIATION, VANCOUVER, 1904.

BY

ROBERT E. MCKECHNIE, M.D.

Mr. Chairman and Gentlemen:—

In asking a member of the profession, residing in the far west, to deliver the address in medicine, I feel that a compliment has been paid, not so much to myself, as to the west. To demand that we, living so far away from the centres of learning, from the great teaching institutions of the east, should nevertheless be expected to keep ourselves abreast of the times and in touch with the latest discoveries, is surely expecting a great deal; and then to expect that one, living under such barren influences, should be able to give you an address equal to this occasion, containing some food for thought and pointing out the pathway of duty and practice, is to look still farther for a miraculous manifestation. But the genius of the west is ever equal to all occasions. It has grown accustomed to the knowledge that the best wheat in the world grows in our North West, that our forests can supply the hugest sticks of timber known to commerce, that our fisheries can supply the world with illimitable quantities of salmon, halibut, and other delicacies, always the best, the hugest, and the illimitable, ever the superlative. So it is not strange that a strong egoism has developed out here, sufficient even to accept this task, and hoping, but with misgivings, that its self-sufficiency may not suffer in the attempt. Personally I feel that a great honour has been conferred on me and I most sincerely thank the

Association for its kindness and trust that its confidence may not have been misplaced.

As to-day we seek to adapt treatment according to the cause of disease, so, looking back to the remotest ages, we find the human instinct groping along the same pathway. But in the early ages of the race science was unknown and miracle was seen in every unexplainable phenomenon. Hence disease was attributable to the wrath of a good being or the malice of an evil one and treated accordingly. Among the ruder tribes the Medicine-man has ever held sway, but even in higher civilization we find that in Egypt the priests of Osiris and Isis claimed powers over disease; in Assyria the priests of Gibil; in Greece the priests of Aesculapius; in Judea the priests of Jehovah. While these have ceased to exist with the decay of their respective religious systems, the ruder primitive methods have persisted. They are found among the aboriginal tribes of Africa to-day, as also on this side of the Atlantic. Parkman, in discussing the customs of the Hurons, says: "A great knowledge of simples for the cure of disease is popularly ascribed to the Indian. Here, however, as elsewhere, his knowledge is in fact scanty. He rarely reasons from cause to effect or from effect to cause. Disease, in his belief, is the result of sorcery, the agency of spirits or supernatural influences, undefined and indefinable. The Indian doctor was a conjuror and his remedies were to the last degree preposterous, ridiculous, or revolting."

Among the Coast Indians in British Columbia the practice is still kept up, and it may interest you to hear me relate what I saw not forty miles from here, only three years ago. In the Indian villages are to be found huge barnlike structures called rancheries, each consisting of one immense room and capable of accommodating twenty or thirty families. Living close to nature, the floor of course is mother earth. Rough stalls, arranged along the walls, separated by screens of rush matting and open towards the centre, form the none too private retreats of the individual families. Each lights its own fire on the earthen floor opposite, whereon their rude cooking is done. The smoke escapes through the shingles as there is no chimney and in the absence of windows the light comes through the cracks in the wooden walls. I went down one evening to such a place to see a sick Indian woman. It was dusk and the waves of the sea were lapping the beach close at hand, while dusky children flitted by in the twilight, engrossed in some pastime. On entering the only door in the rancherie, I found it in utter darkness, excepting for a small fire burning at the extreme end of the building. Here was presented a study in light and shade to have suited a Rembrandt. Around the fire was arranged a circle of Indian women; (it is always

the women who are closest to the mysteries of nature), while at one side was the patient, too weak to sit up, but supported by a couple of sympathizers. Facing her was an Indian Medicine-man trying to cure her disorder by directing his energies to overcome the supposed cause of her disease. My diagnosis was tubercular pleurisy with effusion, but my Indian confrere had diagnosed possession by an evil spirit, and as he was in charge of the case I could only look on. Each woman with a stick in either hand was beating on a piece of wood before her, making as much noise as possible and adding blood-curdling explosives to the incantations of the Medicine-man, in a vain endeavour to drive out, to scare out, the possessing spirit. But unfortunately this kind comes not forth by such rude wooing. And so, from the gray dawn of time, down to what we fondly imagine is the midday splendour of to-day, such forms of practice have persisted through all the ages.

But let us not imagine the air clear yet; the fog is only getting thinner. In other times the sun has attempted to shine through. Five hundred years before Christ, Hippocrates broke away from the old traditions of healing, the supernatural methods, and laid the foundations of medical science on experience, observation and reasoning. Later his teaching influenced the School of Alexandria, where positive knowledge was developed by the adoption of anatomic studies, and centuries later under Moslem patronage the medical sciences reached their highest development, in the Middle Ages. But Europe was less fortunate under Christian influences. There was a return to the belief in the supernatural origin of disease, and in the practice of supernatural methods to combat it retrogression prevailed over progression. Still believing in demonical possession, the various phases of exorcism were practiced, even combined with such practical methods, as the following: "To disgust the demon with the body he was tormenting, the patient was made to swallow or apply to himself various unspeakable ordures, with such medicines as the livers of toads, the blood of frogs and rats, fibres of the hangman's rope, and ointment made from the body of gibbeted criminals." For myself I would prefer the simpler methods of the British Columbia Medicine-man. Cures effected by relics, by pilgrimages, and sacred observances obscured the horizon, while even the Divine Right of kings gave the world the blessings of the Royal Touch for King's Evil. All these practices were injurious to the development of medical science for "why should men seek to build up scientific medicine and surgery when relics, pilgrimages, and sacred observances, according to an overwhelming mass of concurrent testimony, has cured hosts of sick folk in all parts of Europe?" But finally the tide turned. The discoveries of Galileo, Copernicus, Kepler and Newton had their

reflex on the sister sciences of medicine, and investigators made bold to pry into the secrets of life and learn her vital processes, to seek the true causes of disease and endeavour to find the cure. Relapses have occurred. As fanatics opposed the introduction of the fanning-mill because it infringed on the divine prerogative, which furnished the wind to winnow the wheat from the chaff, similarly opposition arose to the introduction of inoculation, vaccination and the use of anæsthetics. And as supernatural agencies were invoked to cure diseases supposed to be of supernatural origin, so to-day we have the various sects of faith-healers, magnetic healers, and what not?

But as Carlyle says:—"Only what is true will persist. Out of the merciless fire of modern criticism truth like asbestos will come forth purified; but vain theories, gaseous, will be dissipated among the waste winds forever."

But where do we stand to-day? Have the fogs all lifted and do we see clearly? Unfortunately not. Investigators to-day are not numbered by tens but by hundreds, pursuing many divers threads of thought, and giving to the world their conclusions, fully formed or immature, probable or fantastic, relevant or irrelevant.

The search for the causes of disease still continues as actively as ever but disappointments are far more numerous than successes. Concerning Sarcomata, Stimson in this month's "Annals of Surgery," says: "We are absolutely in the dark as to etiology and no further advanced in prognosis and treatment than were our colleagues a quarter of a century ago."

Dr. Snow, chief of the London Cancer Research Committee, has come to almost identical conclusions regarding Carcinoma. As regards these two classes of disease we are therefore forced to be content, at present, with increased ability to diagnose them, and have to thank the surgeon largely for the groundwork of this advance.

In 1882, Koch proved tuberculosis to be due to a specific bacillus, and in 1890 startled the world with the announcement of a cure. We all remember the reaction, the tremendous disappointment felt not only by the laity but even more keenly by ourselves, when slowly, unwillingly, we were forced to admit that our expectations were not realized. Early in 1903, Behring delivered a lecture before the Vienna Medical Society, detailing his experiments on animals with his own special serum, and speaking very hopefully as to the future. Perhaps he, who with Roux, discovered in diphtheritic antitoxin the greatest remedial agent of recent times, will unravel the puzzle.

More recently, Marmorek of Paris, has staked his great reputation by giving to the world the results of his labours in a new serum, and we

can only trust that time will prove that it possesses some definite value. Later still that our professionally agnostic brethren may not starve for want of food, an Italian professor has enunciated that Koch's tubercle bacillus is not the cause of phthisis but rather an uncouth octapoid micro-organism of his own finding. Well may the general practitioner raise his hands in despair and wonder what he can believe.

But experience has shown that in tuberculosis as in other things, prevention is better and surer than cure. Statistics are piling up year by year, adding proof where now none is needed, that recognizing tuberculosis as an infectious disease and treating it accordingly, a definite gain can be recorded. Education of the public has already advanced so far that more positive steps should be enforced. Compulsory notification as in other infectious diseases, proper disposal of infected excreta, disinfection of infected dwellings, etc., should be rigidly carried out and the same positive results would be attained throughout the country at large, as already obtained in the few places far advanced enough to follow this self-evident line of action. A resolution should be passed by the present meeting, urging the various provincial Governments to introduce the necessary legslation, and I venture to affirm that coming from so influential a body of scientists, the suggestion would be adopted. And, if adopted as I already have said, the educated sentiment of the public would not obstruct but rather would uphold the action of the authorities. Perhaps this body has already taken such action, but until the various authorities have adopted the suggestions, I consider it the duty of this Association to yearly reiterate the advice. Then finally will begin an era of diminution, until as some of our more optimistic brethren affirm, fifty years will see the extinction of the Great White Plague.

Councilman's pronouncement as to the causative agent of Variola still remains unchallenged, while more recently Mallory, of Boston, has described a protozoon which he has named Cyclaster Scarlatanalis, which he believes has causal relation to Scarlet fever.: In the winter of 1902-03, Mosher of the Kinderspital in Vienna, announced the discovery of an anti-scarlatinal serum prepared from a coccus constantly found in the throats of subjects of that disease. His statistics, covering several hundreds of cases, both mild and severe, were, as such statistics usual'y are, certainly favourable: but he failed to prove his coccus as the cause of the disease, and the consensus of opinion inclines to believe that the favourable results were due to the combatting of the influences of a mixed infection. The same favourable results can also be obtained by use of the antistreptococcic serum, which re-agent in other forms of infection has not the wide use among the profession that its virtues demand.

To turn to another field, where surgery and medicine meet, we find that some definite progress has been made. Numerous operations on the stomach have shown that ulceraton is more common there than formerly suspected. The physician of to-day must not expect to find all the classical symptoms, for we can have ulceration without pain as we also can have it without hæmorrhage. Brilliant results have been obtained in most inveterate cases, by operative methods, results such as medicine has not afforded. Under these circumstances we have the added responsibility of advising some of our patients to submit to the risks of an operation, a responsibility which will often tax our courage to the utmost, but which we, as true men, should not shirk when the occasion arises.

In diseases of the bilary tract surgery has also disclosed many new features. The post operative biliary fistula, in cases of obstruction of the common duct, affords a positive means of correctly estimating the quantity and qualities of the bile. The use of cholagogues has an established place in our practice, but now our faith is rudely shaken. Although the term cholagogue has been in use for more than 2,000 years, and is apparently as firmly seated as the everlasting hills, recent investigations have caused it to tremble and it may eventually disappear, as did many a mountain in some prehistoric cataclysm. Mayo Robson, in estimating the effects of certain so-called cholagogues, found that the old reliable calomel caused a diminution instead of an increase in the flow of bile. Enonymin gave the same result, while rhubarb and podophyllin, turpentine and benzoate of soda gave negative results. His conclusions is: "The supposed cholagogues investigated, seem to rather diminish than increase the amount of bile excreted." Perhaps the most of us feel like saying like the fox to the grapes:—"We did not think they were much good anyway."

As regards cholelithiasis we have also learned a great deal and have had to revise our views as to etiology and must consider the typhoid bacillus and the bacillus coli the primal cause for the majority of the cases. The French school go so far as to affirm that without infection at some stages of the disease we will not have cholelithiasis. Legar says: "The infectious origin of biliary lithiasis is proved and this point is of the greatest importance as regards treatment, for the following reasons: If we have shown that gall stones do not depend on general and obscure humoral conditions but on a local infectious process, the disorder becomes for the most part also a local matter, and as such accessible to direct local means. If the calculi are once formed they increase and multiply, and we can still be sure that they are due to a single attack of lithogenous infection. At a given moment, often very remote, mic-

robian invasion of the gall-bladder took place, and these microbian invasions of intestinal origin, depend on various causes and may occur in the course of different acute disorders; at any rate the calculous disorder comes from this primordial lithogenous chlicystitis Once more it is a complaint of the gall-bladder and ducts, not of the bile, and lithogenous cholecystitis is comparable to many other localized infections, such as appendicitis, for instance. By removing the calculi, or the gall-bladder, recovery may be complete and final.

Finally, we find infection not only at the origin of lithiasis, but also at all stages of the disorder; it is the leading factor of the various complications as well as of the prognosis of the complaint.

Deaver says: "It can be emphatically stated, that gallstones are always the result of precipitated salts and tissue debris, following in the wake of bacterial infection, mild or severe in degree. Furthermore, the complications of chronic gallstones disease, adhesions, ulceration, fistulæ, liver and pancreatic disease are also due to infection." He also says: "The treatment of chronic gallstone disease, its complications and sequelæ can be only surgical. Gallstones are formed through the aid of infection and therefore the disease is local and requires local treatment, that is operation, and not solvents or cholagogues to relieve a condition resulting from faulty metabolism."

Therefore the same application can be made here as was made in reference to gastric ulceration. We should realize the importance of medicines. Solvents do not dissolve and the old treatment was merely that of temporizing with the hope that Dame Nature would aid our misguided efforts by expelling the offending bodies through the natural passages. Such expectancy is often dangerous. Surgery holds out a positive cure in a large proportion of cases, but too many of us fear the responsibility of advising such radical treatment and our patients suffer from our timidity.

Let us now return to a consideration of the work being done by our great army of investigators. In reviewing the work, not only that of the past year, but of recent years, we see labour multiplied, mountains heaped on mountains in the attempt to scale the heights of the unknown, until, considering the results attained we might be forgiven for enquiring what avails so titanic a struggle? The causes of disease are so intricate that they are reached only after ages of scientific labour. Yet, a few successes have made us impatient of the coming of complete victory Some successes have proved to be stars of the first magnitude, others but the smallest flint sparks to illuminate the truth, while many so-called discoveries have given no more light than when wax is struck on

wax, idle theories, thoughts written on the brain, and now, let us hope, rubbed out forever. Looking at the workers as constituting an army, one searches in vain for a controlling spirit, one which will concentrate the tremendous and apparently never-tiring energies of this mass of workers into a well-directed assault on some stronghold of the unknown. Modern investigators are, to quote a phrase of Carlyle's, "like a hapless servant, gone masterless, unfit for self-guidance." To give an idea of the varied subjects being studied, let me quote the titles of a few of the papers published during the year in but one publication, "The Journal of Medical Research:" "On the appearance and significance of certain granules in the erythrocytes of man?" "The influence of certain bacteria in the coagulation of the blood;" "The relation of specific gravity and osmotic pressure to hæmolysis;" "The bacteriolytic compplement content of blood serum;" "The agglutination of the pneumococcus with certain normal and immune sera;" "Cat's blood, differential counts of the leucocytes;" "A study of the agglutinating hæmolytic and endothelialitic action of blood serum in variola;" and so on. I do not wish to speak slightingly of the labours which these titles of so diversified investigations portray, but I do affirm, that if the workers of some one strong school were under sole control, their campaign planned against one enemy, and their work properly correlated, more progress would be made in a given time than by the independent uncorrelated work of all the schools combined.

Such a view is perhaps too Utopian. The world will "gang its ain gait," and our workers will continue to work as before. Truths will gradually be unfolded and science will be developed in the medical field as in the other realms of science. As Marconi did not have to wade through all the drudgery of elaborating the data he needed but utilized the work of others in perfecting his discovery; as Roentgen needed to win but a single step in advance of others in the race to gain the palm, so too we can confidently look forward to the appearance of a master from among our members, one who building with bricks made by others, will erect the edifice of truth containing the key, which will unlock the secrets of nature, and give us command over our most illusive foes. We all feel that that day is near at hand and when it dawns we will join unselfishly, without a trace of jealousy, in crowning that master with the everlasting laurel.

In conclusion, Mr. Chairman and gentlemen, I thank you for the patience with which you have listened to this address, and wish you every success in your labours in the Section of Medicine.

THE SURGICAL TREATMENT OF COMPLETE DESCENT OF THE UTERUS.

BY

E. C. DUDLEY, M.D.

Complete descent of the uterus, descent to the third degree, which may be defined as that deviation in which a part or the whole of the uterus is outside of the vulva, is always associated with extensive injury to the pelvic fascia, the pelvic connective tissue, the muscles of the vaginal outlet, the perineum and the vaginal walls; in fact, these injuries of the pelvic floor constitute the essential lesion, the mal-location of the uterus being an incidental factor.

The uterus in its normal position lies across the pelvis, the fundus pointing in a slightly upward anterior direction and the external os in a slightly downward posterior direction. The long axis of the uterus in this normal direction makes an acute angle with the long axis of the vagina which extends from the vulva upwards and backward in the direction of the hollow of the sacrum. Generally speaking, mobile anteversion with some degree of anteflexion is the normal position of the uterus; at any rate, the uterus in its normal range of movements does not deviate, unless temporarily, beyond the limits of a certain normal anteversion and anteflexion.

In the etiology and treatment of descent the practical significance of this acute angle between the axis of the uterus and vagina is very great because the uterus in the act of prolapse must descend through the vaginal canal in the direction of that canal, that is, a coincidence of the two axes is a prerequisite of descent. Now if the essential condition of descent is a coincidence of the two axes, it follows that one factor at least in the treatment of descent must be to restore the normal angle between the axes.

In labor the anterior wall of the vagina is so depressed, stretched and shortened by the advancing child that during and after the second stage the anterior lip of the cervix uteri may be seen behind the urethra. This location of the cervix—so close to the anterior wall of the pelvis—necessarily involves great stretching of the utero-sacral supports which normally hold the cervix uteri and together with it the upper extremity of the vagina close to the hollow of the sacrum. This function of the post uterine ligaments having been temporarily impaired the upper extremity of the vagina is displaced forward, so that the uterus having sufficient space between itself and the sacrum instead of maintaining its normal anterior position may fall backward into retroversion and thereby bring its own axis into line with the direction of the vagina. Frequently the change in the direction of the vagina from the normal oblique to the abnormal vertical is still further increased

Read before the Canadian Medical Association, Vancouver, 1904.

by injury to the vaginal outlet; the perineum may be torn in any direction and what is more serious it may be torn away from its pubic attachments and in this way may be displaced backwards towards the tip of the coccyx, in fact, such displacement is so common as the result of injuries to the perineum as to suggest the propriety of a change in terminology from laceration to displacement of the perineum. The upper extremity of the vagina being displaced forward and the lower extremity backward and the direction of the over-stretched, dilated vagina now being vertical, the heavy uterus having its long axis in the same vertical direction has all the condition favourable to progressive descent.

If the puerperium progress favourably with prompt involution of the pelvic organs and if the relaxed vesico-vaginal wall and other parts of the pelvic floor, especially the utero-sacral supports and the broad and round ligaments, recover their normal tone, then the whole pelvic floor including the uterus resumes its normal relations. But if the enlarged heavy uterus remain in the long axis of the vagina; and especially if the fundus uteri be incarcerated under the promontory of the sacrum with the sacral supports stretched so much and for so long a time that they cannot recover their contractile power; and if normal involution of the pelvic organs be arrested, then descent may not only persist but may progress with constantly increasing cystocele and rectocele until the entire uterus has extruded through the vulva.

It is most important to remember that complete prolapse of the uterus is only an incident to prolapse of the pelvic floor. The whole mechanism is that of hernia and the condition is hernia for the extruded hernial mass drags after it a peritoneal sac which, hernia-like, contains small intestine. This sac forces its way to the pelvic outlet and extrudes through the vulva, having the inverted vagina for a covering.

The prolapsing uterus may be related to the vaginal walls in either one of two ways: The prolapsing vaginal walls may drag the uterus down after it; or the uterus itself may descend along the vaginal canal by force of its own weight and drag with it the reduplicated vaginal walls. Extreme prolapse of the uterus, the organ being covered thus by reflected vaginal walls, has given rise to considerable confusion in pathology and by many standard authors wrongly has been called hypertrophic elongation of the cervix uteri. In a given case, the possibility of infra-vaginal elongation may be settled easily by placing the patient in the knee-breast position, when the uterus of its own weight will fall toward the diaphragm and the reduplicated vaginal walls will unfold and the utero-vaginal attachment will appear in the

normal place instead of being as it seemed to be high up on the walls of the uterus. Those cases in which reduplication of the vaginal walls does not almost entirely explain apparent great elongation of the cervix, are rare exceptions. When formerly these mechanical conditions were attributed to hypertrophic enlargement of the uterus itself and were regarded as adequate indications for the removal of the cervix, the surgeon in the attempt to remove what he supposed was the elongated cervix uteri sometimes invaded the bladder anteriorly and the rectum posteriorly.

Surgical Treatment. In passing it may be well to mention for the purpose of condemning it an operation perhaps more frequently performed than any other for the cure of complete descent, namely, the operation which generally passes under the name of Stoltz. This operation is designed to narrow the vagina and thus to maintain the uterus somewhere in the pelvis above the constriction. Operations of this class usually consist of the removal of an elliptical piece from the anterior or posterior vaginal wall or from both and of closing the exposed surface by means of a purse-string suture. No effort is made to restore the normal axis of the uterus and vagina. The whole purpose is to make the vagina so narrow that the uterus cannot pass through it. Such operations generally fail because they leave the uterus and vagina in the same axis and because the restricted vagina cannot resist the downward force of the uterus which almost invariably dilates the vagina a second time and forces its way through with reproduction of the hernia. Moreover, the operation always does permanent harm because it shortens the vagina thereby making it draw the cervix away from the sacrum toward the pubes so that the body of the uterus may have room to fall backward to the position of incurable retroversion. We may without discussion perhaps throw out all operations belonging to the Stoltz group. The same may be said of all plastic operations in which the vaginal surfaces are exposed by superficial denudation and brought together by sutures.

After a prolonged trial of the principle surgical procedures which have been made use of for the cure of complete descent, I am prepared to lay down certain essential principles as follows:

An efficient operation on the vaginal walls should have for its object, not narrowing the vagina, but restoring the normal direction of it with a double purpose so that (A) the upper extremity together with the cervix uteri shall be in its normal location within an inch of the second and third sacral vertebrae, just where the utero-sacral ligaments would hold if their normal tonicity and integrity could be restored; and so that (B) the lower extremity of the vagina shall be brought

forward against the pubes. The fulfilment of these two indications will restore the normal obliquity of the vagina and will hold the cervix uteri so far back toward the sacrum that the corpus uteri must be directed forward in its normal anterior position of mobile equilibrium. With these conditions, the uterus being at an acute angle with the vagina and having little space posteriorly, cannot retrovert and turn the necessary corner which would permit it to prolapse in the direction of the vaginal outlet. In order to accomplish this, two things usually are necessary:

1. *Excision of the Cystocele*—Anterior Colporrhaphy—in such a manner as to utilize the broad ligaments for holding up the uterus and vagina.

2. *Perineorrhaphy—Posterior Colporrhaphy.*

1. *Excision of the Cystocele*—Anterior Colporrhaphy: The plastic operations performed on the anterior and lateral walls of the vagina by Sims, Emmet, myself and others, which have consisted of superficial denudation and reefing of the anterior or lateral walls of the vagina have been only partially successful; first, because they did not adequately force the cervix uteri into the hollow of the sacrum; second, because efficiency requires deeper work than superficial denudation can accomplish, and third, because these operations did not utilize the broad ligaments sufficiently for support.

The above principles emphasized by Reynolds in a recent paper have lead me to modify my own operation materially. Complete prolapse, being hernia, should be treated according to the established principles of herniotomy by reducing it and then excising the sac in such a way as to expose a strong fascial edge which should be firmly united by sutures. The absurdity of treating any other hernia by superficial denudation and reefing or tucking in the surfaces by sewing them together must be apparent to any one. In order to indicate the part which the broad ligaments must have in a correct operation it is only necessary to observe the fact that vaginal hysterectomy commonly results in holding up the pelvic floor and with it the rectum, vagina and bladder because in this operation the broad ligaments are usually fixed to the vaginal wound. But why should not the same result be aimed at by similar means even though the uterus is not removed? The operation which I would urge is performed as follows:

Anterior Colporrhaphy.

First Step. To split the antero-vaginal wall—that is, the vaginal plate of the vescio-vaginal septum—by means of scissors, from the cervix uteri to the neck of the bladder, then to strip off the vaginal

from the vesical layer of the vesico-vaginal wall and cut away the redundant part of the vaginal plate.

Second Step. The redundant part of the vaginal wall having been removed to extend the incisions and remove the mucous and submucous structures to either side of the uterus, being sure to reach the fascial structures, which are in direct connection with the lower margins of the broad ligaments or what is better to reach the ligaments themselves.

Third Step. To introduce silkworm gut or chromic catgut sutures so that when tied they will draw the loose vaginal tissues and the broad ligament structures on either side of the cervix uteri in front of the cervix so as to force the cervix back into the hollow of the sacrum.

Fourth Step. The sutures introduced in the third step having been tied, additional interrupted sutures are introduced to unite the vaginal wound from side to side; this suturing is continued to a point near the urethra, when most of the redundant vaginal wall will have been taken up; there will usually remain, however, the lower portion of the cystocele and perhaps some urethrocele, which cannot be disposed of by bringing the margins of the wound together from side to side, but can be taken up by uniting the remaining part of the wound in a transverse direction.

Even at the risk of proxility I repeat that it is essential to remove the entire thickness of the vaginal layer of the vesico-vaginal septum.

Contraindications to Elytrorrhaphy. Elytrorrhaphy is usually unnecessary and therefore contraindicated in descent of the first degree. The special province of the operation is in complete prolapse or procidentia when associated with cystocele. The operation further is contraindicated by tumours and adhesions which render replacement and retention impossible, and in diseases of the uterus or its appendages which demand their removal. When such contraindications do not exist, elytrorrhaphy and perineorrhaphy in a majority of cases are quite as effective and therefore to be preferred to the more dangerous and mutilating operations of hysterectomy.

Perineorrhaphy and Posterior Colporrhaphy. As already stated, it is most important to appreciate the fact that in nearly every case of procidentia the lower extremity of the vagina is displaced backward. This is consequent upon subinvolution of the pelvic floor and especially upon subinvolution or rupture of the perineum or of some other portion of the vaginal outlet. Unless, therefore, the posterior wall of the vagina and the perineum can be brought forward to their normal location under the pubes, so as to give support to the anterior vaginal wall, the latter will fall again, will drag the uterus after it, and the hernial

protrusion (cystocele and prolapse) will be reproduced. The treatment, therefore, or procidentia must always include an adequate operation on the perineum, or, more comprehensively speaking, upon the posterior wall of the vaginal outlet. The operation must be performed so that it will carry the lower extremity of the vagina forward to the normal location close under the pubes; then, if the anterior colporrhaphy has been adequate, i.e., has carried the upper extremity backward, the whole vagina will have its normal oblique direction, and its long axis will make the necessary acute angle to the long axis of the uterus.

Hysterectomy.

Hysterectomy, if indicated, should be performed by the vaginal route. As an operation for procidentia hysterectomy is open to the following comments: Procidentia, as already shown, is hernial descent, not merely of the uterus, but also of the vagina, bladder and rectum. Complete prolapse often occurs after the menopause, when the uterus has become an insignificant rudimentary organ and therefore may be removed easily. Cases are numerous in which, after vaginal hysterectomy, the pelvic floor and with it the vaginal walls, have protruded again through the vulva—a result which may be expected unless the operation has included anchorage of the upper end of the vagina to its normal location by stitching the severed ends of the broad ligaments into the wound made by removal of the uterus. The indication for perineorrhaphy as a supplement to hysterectomy is the same as after anterior elytrorrhaphy.

As laid down in the foregoing paragraphs the utilization of the broad ligaments is the essential factor in the treatment of complete procidentia. The operation of Elytrorrhaphy above described unfortunately either may fail to bring the lower edges of the broad ligaments sufficiently in front of the uterus to enable them to hold up the uterus and vagina or the ligaments having been stitched in front the stitches may not hold. Consequently in complete procidentia elytrorrhaphy even though well performed may fail, at least, this has been my experience in a number of cases. Therefore the completely prolapsed uterus may have to be removed in order to secure the entire cut ends of the broad ligaments to the upper part of the vagina, and thereby give absolute support. As before stated, the operation should include the treatment of the hernial factor in the lesion, that is, removal of the redundant portion of the anterior vaginal wall. Generally speaking, the indications are somewhat as follows:

1. Extreme cystocele not associated with the most extreme procidentia should be treated by anterior colporrhaphy and perineorrhaphy.

2. Cystocele associated with complete procidentia, properly may be treated by hysterectomy, anterior colporrhaphy and perineorrhaphy. Anterior colporrhaphy in all cases.

3. Conditions intermediate between the two conditions indicated above and cases of very feeble or very aged women will call for special judgment whether hysterectomy be omitted or performed. It is, however, a fortunate fact that the completely prolapsed uterus, even in aged women, is removed usually with ease and with safety.

Other Operations of Questionable Value.

Other operations designed to decrease the weight of the uterus by removal of a part of it are of questionable value. Amputation of the cervix to lighten the weight of the uterus has been practised much for the spurious hypertrophic elongation already described. Since this condition is rare, if not indeed unknown, it follows that it seldom will furnish an indication for amputation of the cervix uteri.

Alexander's operation and abdominal hysterorrhaphy belong to the surgical treatment of retroversion and retroflexion not of procidentia The object of these operations is to suspend the uterus from above. Hysterorrhaphy, which perhaps fulfils this indication better than shortening the round ligaments, may be indicated in cases of extreme relaxation of the uterine supports and greatly increased weight of the uterus. The results of it in complete procidentia, however, usually will not be permanent unless it is supplemented by adequate surgery in the vagina.

In the November number of this Journal the Address in Surgery delivered before the Canadian Medical Association at the meeting in Vancouver by Mr. A. W. Mayo Robson will appear. The subject is "On Pancreatic Inflammations in their relationship to Cholelithiasis and their treatment," and it will be illustrated by upwards of thirty reproductions of photographs.

Dr. Pierre Paul Boulanger died on the 29th of September in the thirty-fifth year of his age. Dr. Boulanger was the founder and managing editor of *La Revue Médicale du Canada*, which appears every week in Montreal. It is only seven months since *La Revue* lost its editor in the death of Dr. Brennan. Dr. Boulanger leaves a widow and two children. To his family and friends the sympathy of his fellows is extended.

THE

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EDITED BY

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G. GORDON CAMPBELL, WILLIAM GARDNER
FRANK BULLER, F. G. FINLEY,
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THE HOSPITAL FOR CONTAGIOUS DISEASES.

The facilities for the care and treatment of cases of contagious disease in Montreal have never been satisfactory. In times of epidemic the means at the disposal of physicians have been inadequate, and the conditions under which they were compelled to labour were often intolerable. The burden of complaint now is not that facilities are bad, but that they do not exist. There is probably no civilized community in the world which does not make some attempt to protect itself against the infection of scarlet fever, measles and diphtheria, by isolating patients suffering from those diseases in special hospitals. Save for the small dwelling on Mount Royal avenue, which is capable of housing about sixteen patients, there is no place in Montreal to which such patients can be sent. To be strictly accurate, there is one other resort, and that is to place the patient in a public conveyance to perambulate the streets, but this method of therapeusis is obviously open to objection.

The principle has been established, rightly or wrongly, that patients

of the Catholic faith shall not be treated in an institution where the formalities of that religion are not observed. This disposes of the plan for a hospital under civic control. Apart from religious considerations, there is something to be said for that view of the case, in the light of events which are reported to have happened in the civic hospital at Ottawa. Patients had entered that institution suffering from one disease and contracted and died of another. In addition to this inconvenience, the conduct of nurses and attendants does not appear to have been marked by that seemliness and austerity which is proper to a place in which death at any time may enter.

We are not here specially concerned with the care of patients of the Catholic faith. That community is attending to its own needs with that capacity for organization for which it has always been famous. The corporation of Notre Dame Hospital is erecting its new edifice on Sherbrooke street, between Maisonneuve and Plessis, upon an ample site containing more than 60,000 feet of land. The building operations are well advanced, and provision is made in separate pavilions for cases of scarlet fever, measles, diphtheria, and for doubtful cases. With the usual perspicacity of the community, the money is all in hand, having been secured from the *Credit Foncier* of Canada, partly upon mortgage and partly secured by a transference of the city subsidy. The hospital will be an integral part of Notre Dame. The physicians will be nominated by the Medical Board and elected by the Board of Governors. The nursing will be in charge of the *Sœurs Grises*, and Dr. E. P. Lachapelle will be the general superintendent of the whole institution. We are assured that the hospital will be open for the reception of patients in the summer of 1905. All this is entirely creditable to the Catholic portion of the community. How is it with the Protestants?

We are about to speak plain, but before doing so it will be well to recite the facts which have led up to the present situation. The modern history of the contagious diseases hospitals dates back to August, 1900, when a quarterly meeting of the Board of Governors of the Montreal General Hospital was held and received a resolution from the Medical Board that such a hospital was urgently needed, and recommending a renewal of the arrangement that had once existed with the city. The Governors adopted this advice, on the ground that the then existing Civic Hospital did not receive the confidence of the public. On October 10th of the same year a meeting was held of representatives of the Montreal General, the Royal Victoria and the Notre Dame Hospitals to discuss grievances against the Civic Hospital, and to urge joint control by those institutions. The result of this meeting was a resolution asking the city to build a hospital and to put it under experienced control, the

sum necessary to be raised by a special loan. On December 3rd, another meeting was held at the City Hall, when the new project was outlined, the control to lie with the City Council, though there would be representatives from the English and French hospitals. This led to a conference of citizens a few days later, at which a wide difference of opinion was revealed. Some preferred civic control; those with less faith in the infallibility of the Council advocated management by a committee of citizens; some were in favour of one hospital for both nationalities; some were in favour of two with dual control.

In the meantime a crusade was being carried on against the old Civic Hospital on Moreau street. There was abundant evidence that it was a disgrace to the city, that there was a lack of Medical attendance and of nursing, that, in short, the hospital was worse than a gaol, inasmuch as in a purely penal institution one is not in danger of his life from the contagion of disease. It was a matter of common knowledge that patients who went to the hospital ill of measles contracted scarlet-fever, and died of the more recently acquired disease. Under the influence of these facts some progress was made, and in January, 1901, a by-law was drafted for submission to a vote of real-estate proprietors. Under the terms of this proposal, the city was to erect, maintain and control the hospital with a minority representation from the outside; but a Medical Board appointed by the old hospitals was to have charge of the internal affairs. This plan received general support, and was officially commended by the Provincial Board of Health, though there was a doubt in the minds of many as to the capacity of the City Council for efficient management of any public institution of any kind.

On the 23rd January, 1901, the City Council received a communication from Sister Filiatrault, whose official title, *Supérieure Générale, Hôpital Générale,* gave it considerable weight. This lady undertook, on behalf of the *Sœurs Grises,* to contribute $50,000 for a hospital for Catholics on condition that the city should contribute a like amount, and give a site for a building, with an annual subvention of $10,000. A week later the Montreal General and the Royal Victoria made a similar offer in respect of the non-Catholic portion of the community. These offers were accepted in the main by the city; the annual subvention was increased, and the hospitals were to provide their own sites. The Catholics have carried out their part of the agreement; the Protestants have not carried out their part of the agreement.

The Montreal General and Royal Victoria hospitals at once applied to the Legislature at Quebec for a charter of incorporation for a new hospital to be called the 'Alexandra Hospital,' which should have a Governing Board of fifteen members, to be composed as follows:—The

President and three members of the Montreal General Hospital, the President and three members of the Royal Victoria Hospital, and the President and two members of the Western Hospital, making eleven ex-officio Governors. Of the remaining four, two are to be elected by subscribers of one thousand dollars and upwards, and two by subscribers of one hundred dollars and ten dollars annually.

At a meeting held in the Board Room of the Montreal General Hospital on the 17th March, 1903, the Montreal General Hospital was represented by Mr. J. Crathern, President, Mr. J. R. Wilson and Dr. R. Craik; the Royal Victoria Hospital by Mr. R. B. Angus, President, Mr. E. S. Clouston, Hon. George A. Drummond and Dr. James Stewart, and the Western Hospital by Mr. C. F. Smith, President, Lieut.-Colonel J. H. Burland and Dr. F. W. Campbell. The Hon. Mr. Drummond was elected President, Mr. Clouston Honorary Treasurer, and Mr. J. J. Robson was appointed Secretary.

The committee at once proceeded to find a suitable location, but in this they experienced more difficulty than the Notre Dame, because in the eastern portion of the city there were large tracts of vacant land, whereas, in the western section, most of the land was built upon and of much greater value. A contract was finally made for the purchase of a piece of land bounded by Mount Royal avenue, Esplanade avenue and St. Urbian street, which would have been a most suitable site, but as soon as the proprietor ascertained the purpose for which the land was required he declined to complete the contract.

Rather than engage in litigation the committee decided to look elsewhere. They turned their eyes towards Outremont, and found a desirable plot of ground on the Joyce property. Again the adjoining owners intervened, and that section had to be abandoned. Finally the committee was driven south of Pine Avenue and west of Bleury Street by an Act of the Legislature which the proprietors in the north and east of the city had influence enough to have passed into law. The whole suburbs of Montreal were searched, Cote St. Luke, Cote St. Catherine and Notre Dame de Grace, and finally the only available site was discovered in Point St. Charles. This plot of land lies to the south of Wellington Street, and extends to the river, from which it is separated by the embankment, and adjoins the railway shops on the east. It contains 970,000 feet, and was purchased for ten cents a foot, the intention being to retain 160,000 feet for hospital purposes, and dispose of the remainder to the Grand Trunk Railway. This, we understand, is being done. We are not contending that this site is an ideal one. The land is low, and from the beginning of time till the dyke was built it was under water for the whole or part of the year. It is in the thick

of railway traffic and in the path of the smoke of the city, which is driven in that direction by the prevailing winds. It is only fair, however, to assume that the committee, which is composed of men of affairs, made the best choice which could be made under the circumstances.

The committee next proceeded to secure plans. They invited designs from seven architects. They submitted the plans to a rigid scrutiny, and agreed upon a design, which, with the modifications already made, is in accord with the most modern views of hospital construction. Upon this matter of the plans we understand there was a disagreement amongst the committee, one result being that Sir George Drummond retired from the chairmanship and came no more to the meetings.

When it came to the point of inviting tenders upon the specifications, the committee were up against the fact that they were committing themselves to an expenditure of two hundred thousand dollars, whilst they had exactly thirty-six thousand dollars in hand. Being men of business, they declined to enter upon so perilous an undertaking. Therefore, they did nothing, and, so far as we can learn, nothing has been done since.

The question arises at once: Why did not the committee build according to their means? That would have been to perpetuate the abuse from which we have suffered too long. The good is ever the enemy of the best, and even a tolerably good building would have put a properly equipped hospital out of reach. A hospital for contagious diseases is one of the most expensive of edifices to erect. In reality, it is a congerie of hospitals—one for measles, one for scarlet fever, one for diphtheria, and yet a fourth for erysipelas, mixed and undetermined cases, with all the expense attendant upon their management.

The situation is very simple. If the citizens of Montreal who are not of the Catholic faith desire a hospital for contagious diseases, they may have it. The alternative is that they may send their children to the hospital which their Catholic fellow-citizens have erected, and the subsidy of fifteen thousand dollars a year which is now offered to them will quite properly go to Notre Dame.

It would be a waste of time to discuss the necessity for such an institution. The people want a hospital and, we believe, are willing to pay for it. They have left the matter in the hands of a committee. They expect at least that the committee will ask them for the money. Apart from a general appeal that has not been done. This committee, to accomplish results, must employ every device of the collector, appealing to every class in the community upon its own grounds, and even minister to the susceptibilities of the individual.

The profession is deeply concerned in this matter, though not more deeply than any other class in the community. We are ready as individuals and as a society to give to the committee every assistance by recounting our experiences of patients who have died for want of adequate care; of infection, which has been disseminated broadcast for lack of isolation facilities, and by urging the people to protect themselves against the menace of contagion. Nor is it the poor alone who are concerned. These pestilences are no respecters of persons, and fever in the most humble family is fraught with the possibility of dire consequences to every section of the community.

THE ANNUAL ADDRESS.

Dr. Tunstall, the President of the Canadian Medical Association, undertook in his address a consideration of four specific subjects. These were: the Canadian Medical Protective Association; the Federal Health Bill; the Dominion Medical Council; and the Treatment of Inebriates.

The President acknowledged frankly that the Protective Association had received but scant support, only 252 members having joined, or a little over five per cent. of the eligible members in Canada. The sole object of the Association, so far as we understand it, is to afford assistance in money and prestige to a member who may have a lawsuit unjustly thrust upon him. It is as great a wrong to assist in the defence of an unworthy member as it is to allow a worthy member to be persecuted and not come to his rescue. Before the funds of the Association can be employed, the council must satisfy itself of the merits of the case. It must adjudicate upon it and, in a sense, prejudge without full information on both sides. This a central council cannot do in a country so large as this, where the local disturbance may be a thousand miles removed. But there are throughout Canada sufficient strong medical societies, composed of sane, calm men, to whom a reference might be made by the council for a primary consideration of the case. If some such mechanism were devised, we believe the Association would receive support. Men are deterred from joining through fear that the funds of the Association might be employed unwittingly in an unworthy cause. An attempt of this kind was made recently in a notorious case which occurred in British Columbia.

In regard to the Dominion Registration Act, Dr. Tunstall brought a fresh mind to bear upon the subject, and demonstrated with the utmost candour that there was no desire or intention to interfere with the autonomy of any province. He was particularly happy in his reference to the susceptibilities of the Province of Quebec, to which he himself belongs, whose dominant language he has not forgotten after

so long a sojourn in the West. By his good sense and tactfulness in enlisting the sympathy of the French-speaking members of the profession in British Columbia, and of the visiting members from Quebec, he has advanced this desirable measure. Quebec will not be coerced. In time we shall be won by appeals to our reason and sense of justice. Already the Secretary of the College of Physicians and Surgeons has been instructed to communicate with the authorities in England in regard to the legislation which is pending.

The Federal Health Bill we fear has become involved with political considerations, from which it will be difficult to dissociate it. The matter will require wary handling, and nothing will be gained by pressing it unduly. The most that can be done is to submit the proposal to a thorough discussion within the councils of the profession.

The views expressed by Dr. Tunstall regarding the treatment of inebriates are well worthy the consideration and support of every medical man in Canada. That the vast majority of these persons are more or less mentally affected there can be but little doubt, though their mental obliquity rarely fits them for commitment to our ordinary hospitals for the insane, where, in addition, their presence would be detrimental to those for whom such institutions are primarily provided. Such cases should be treated in Government establishments specially arranged for them, as is done in Massachusetts, at the Foxborough Hospital for Dipsomaniacs and Inebriates. The statistics of this institution show that much benefit has ensued from the treatment therein provided, no less than 25 per cent of those discharged having remained wholly abstinent for over a year after leaving the hospital.

LORD STRATHCONA'S GIFT.

The procedure common to British medical schools, that of opening the session with an introductory lecture delivered by a leader in the profession invited from outside, has much to recommend it. Those who were present at Dr. Abbott's lecture at McGill Medical College on the 20th of September could not but feel that the session had opened brightly and worthily, and that to the new-comers their formal entry into the ranks of the medical students was an inspiriting occasion, an event which the Freshmen of this year will long remember. The speakers—the Principal, the Dean and the invited guest spoke in a cheerful tone; in short, the occasion was auspicious.

Elsewhere we print the text of Dr. Abbott's lecture Here we would, more particularly, call attention to the announcement made by the Dean of one more generous gift from that old and tried friend of the Medical Faculty, the Chancellor of the University, Lord Strathcona—a

gift of fifty thousand dollars. The aid thus afforded to the Faculty is most opportune. Owing to a series of circumstances, which it is not necessary that we should detail here, the recent additions to the buildings of the Medical College, estimated to cost $100,000, cost a very much greater amount, and so absorbed not only the donations of Lady Strathcona and the Hon. Mrs. Howard, but also all the accumulated funds of the Faculty, and in addition, made necessary a considerable loan from the Governors of the University. In the four score or so years of its existence it has been the pride of the McGill Medical School that it has been able to make ends meet and to keep out of debt. That it should find itself unable to maintain its tradition has been a source of grave anxiety to the Faculty, and so it will be understood that Lord Strathcona's gift has been received with a gratitude as thorough as the relief it has occasioned.

May others follow Lord Strathcona's good example and take to heart Dr. Abbott's pregnant remarks upon the policy of generously supporting this and other medical schools. Those remarks are worthy of a wide circulation. There is surely no better investment than an outlay tending to promote the standard of education and capacity of the general practitioner, and so to ensure betterment in the general health and well-being of the community at large. So great are the advances now being accomplished in medicine, so great the advance in medical education, that the thorough, all-round training of the practitioner is most expensive; and if McGill is to keep pace with the leading schools on this continent, she cannot be content to remain as she is but constantly advance. To remain at a standstill is, nowadays to be left rapidly far behind. There is no thought of remaining at a standstill; there is, however, an increased realization that, to keep even with its competitors, the Medical School requires this donation from Lord Strathcona as a stimulus to others to help the school.

THE STUDENTS' UNION.

Amongst the valuable donations announced by Principal Peterson in his opening address to the students was one of twenty-five thousand dollars by Lord Strathcona as a subscription towards a students' gymnasium, and of an equal sum from Sir William Macdonald towards the McGill Students' Union. Both these gifts tend towards a like object, namely, to improve and render more healthy the student's life in Montreal. It is but a relatively small proportion of the whole student body that can assure itself of regular exercise by becoming members of one or other of the athletic teams, and even that small proportion finds it

difficult to harmonize the calls of work and of the Campus. On the other hand, a university gymnasium affords to every member of the student body the opportunity for physical exercise at such hours that there is no clash between the two demands. Until now, the gymnasium facilities have been, to say the least, inadequate, and this despite the efforts of one who has rapidly taken a leading position amongst the authorities in physical education on this continent, namely, Dr. R. Tait McKenzie, who, we regret to say, leaves for a larger field just at the moment when his advocacy appears to be crowned with success.

Similarly the Students' Union, affording a meeting place, and assuring a place for lighter recreation, where students can meet and spend their leisure hours in cheerful surroundings, is destined to materially improve their lot and to supply an element of full university life which hitherto has been wanting in Canada. We understand that this sum of twenty-five thousand additional to the one hundred thousand already given by him is thus devoted by Sir William Macdonald in order to acquire an additional lot on Sherbrooke street, opposite to the University, so that the building may not be cramped, and may have room for further development.

THE HOUSE-SURGEON.

House surgeons, we feel sure, will bear with us whilst we instruct them, not in any matter pertaining to medicine or surgery, but in the procedure which they should follow, when in the exercise of their functions they are brought into contact with members of the medical profession other than their own immediate chiefs. It is altogether pardonable that house-surgeons should gain the impression that the hospital is the one refuge for the whole population in times of sickness. The records of hospital attendance give colour to that view. But there is yet a remnant of the people which employs its own physician—a man of grave aspect it may be, whose capacity has been well tried, who by years of patient labour and fidelity has won a place in the family life which is not invariably accorded to the house-surgeon when he makes his first visit upon the ambulance. When the hospital is called upon for an ambulance to remove a patient whose case has been diagnosed, and the house-surgeon accompanies it, his duties are chiefly those of an officer of transportation. If the family physician be present it is not necessary for the house-surgeon to make a diagnosis anew, or to discuss in the presence of the porters the diagnosis which has already been made. Because the family physician is of a shy and retiring nature, he may not, and being wise, he will not openly resent the intrusion of the masterful young surgeon. He knows that omniscience in Medicine

does not imply an intuitive recognition of every member of the medical profession, and that it is hard for a house-surgeon to comprehend that a man may be a physician and yet not wear a white coat in the streets. After a young man has attained to all knowledge of medicine and surgery, and has begun to employ it for the benefit of humanity, it yet remains for him to perfect himself in a knowledge of the relations which should exist between himself and those who are similarly engaged. The family physician pretends to stand in awe of the house-surgeon. In reality he regards him as a raw and inexperienced youth. The house-surgeon should think upon these things. Some day he may himself, when he has arrived at a wider knowledge, be called upon to fill the useful if humble role of the family physician.

At the last meeting of the Board of Governors of the Montreal General Hospital an enlargement of the constitution was made by which appointment to the resident staff will not be confined to graduates of British Universities. Cases have arisen in which very desirable candidates have offered themselves from the United States, and in future these will be eligible for appointment.

The quarterly meetings of the Montreal General Hospital are likely to be discontinued. For some years past they have been purely formal, and at times the attendance of governors was so small that the meetings have had to be postponed. If this be due to a decline of interest on the part of the governors in the affairs of the hospital, the abandonment of the quarterly meetings will not help to stimulate it.

Dr. Wills, of the Sanitarium for Tuberculosis at Calgary, died on the 22nd of September as a result of a bicycle accident. Dr. Wills will be remembered by the profession in Montreal as having visited this place last April in the interest of Calgary as a health resort. He was a valued contributor to this Journal. It was only in July last that he communicated his paper upon the climate of Calgary in the treatment of tuberculosis. He was but a young man, and his sudden taking-off will cause general regret

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The Conservatorium of Music in connexion with McGill University was opened informally on the 20th September by the Principal, the Dean of the Arts Faculty and the director, Mr. C. A. E. Harriss. A telegram, which had arrived most opportunely from the President of the Royal Academy of Music, London, was read to the following effect: "Royal Academy of Music, London, cordially wishes success to her

youngest sister." If this little sister could contrive in some way to keep her name out of the newspapers she would be doing something to win the regard of her old and austere brothers. The use that is being made of the name of the University for purposes of advertisement of pianos is an offence.

Reviews and Notices of Books.

A Text Book of Histology. By A. A. Bohm, M.D., and M. von Davidoff, M.D., of the Anatomical Institute of Munich. Second English Edition, edited by Carl Huber, M.D., Professor of Histology and Embryology, and Director of the Histological Laboratory University of Michigan. One volume of 528 pages, with 377 illustrations. W. B. Saunders & Co., Philadelphia, New York and London, J. A. Carveth & Co., Toronto, August, 1904.

Although the number of pages and illustrations is somewhat larger than in the first edition, the book is of a convenient size and shape for laboratory use. The first 56 pages are given up to a description of laboratory methods, including the use of the microscope and methods of fixing, cutting and staining specimens. The next 130 pages are devoted to general histology, and the remaining 342 pages to special histology. The book has been thoroughly revised, and embodies the results of the latest researches in histology. Recognition has been given to the results obtained by the use of plastic reproduction, which the authors state to be exceedingly useful in giving a clear and accurate conception of structures too small to be studied by the ordinary methods of maceration and teasing and too complicated to admit of full interpretation by means of sections. At the end of each chapter several pages are devoted to a description of the laboratory technique required in the study of the special tissue or organ considered. The illustrations, nearly all of which have been prepared for this work, are excellent. This is a good book for laboratory work and for reference.

The Practice of Obstetrics. By J. Clifton Edgar, M.D., Professor of Obstetrics and Clinical Midwifery in the Medical College of Cornell University, New York. Roy. octavo, 1,153 pages, 1,264 illustrations, including five coloured plates and 38 figures. Printed in colours. Second Edition. Cloth, $6.00. Published by P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia; Chandler, Massey Co., Toronto.

The former edition of this work reached us in November, 1903, and was reviewed at considerable length in February of the present year. That edition was exhausted in four months, and this, the second, is

designed to replace it. The time which has elapsed since the issue of the first edition is so short that no complete revision of the work was necessary, nor is it necessary now to make any extended remarks upon it, beyond reiterating the opinion which was expressed upon the previous occasion, "that another good text-book has been added to the rich series produced by American authors within the last few years, that the work gives evidence throughout of the most painstaking thought in the arrangement and presentation of the subject matter, that it is practical and full of hopeful suggestions to the practitioner."

Clinical Lectures on Mental Diseases. By T. S. Clouston, M.D., Edin., Medical Superintendent of the Royal Edinburgh Asylum. Sixth Edition. Lea Brothers & Co., Philadelphia and New York. 1904.

The sixth edition of Dr. Clouston's Clinical Lectures on Mental Diseases marks the wide circulation of a favourite book. In it the distinguished author brings the study of psychiatry up to the level of our latest acquisitions, so far as it can be done in a clinical treatise. The chapter on the duties of medical men in relation to mental diseases, and that on the general treatment and management of insanity looked upon as a whole, are especially valuable both to the general practitioner and the specialist. Most of the pathological plates are new and especially good.

It is to be noted that, in his preface, Dr. Clouston, than whom there is no better authority or more brilliant writer, pays a well-merited tribute to the good work now being done by the younger men in hospitals for mental diseases.

T. J. W. B.

Magee & Johnson's Epitome of Surgery. A Manual for Students and Practitioners. By M. D'Arcy Magee, A.M., M.D., Demonstrator of Surgery and Lecturer on Minor Surgery; and Wallace Johnson, Ph. D., M.D., Demonstrator of Pathology and Bacteriology in Georgetown University Medical School, Washington. In one 12mo volume of 295 pages, with 129 engravings. Cloth, $1.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York. 1904.

This volume forms one of Messrs. Lea's well-known Medical Epitome Series, which is issued under the editorship of Dr. V. C. Pedersen. This series is designed to include the whole field of Medicine. Each volume is to cover its own subject in all essential particulars, and the maximum of information is to be given for the cost of the book. The present volume fulfils these conditions; it is a small manual as distinguished

from a mere compend, useful alike to the practitioner and to the student. A volume upon Nervous and Mental diseases by Joseph Darwin Nagel has also appeared in the same series.

A Text-Book of Materia Medica, Including Laboratory Exercises in the Histologic and Chemic Examinations of Drugs. For Pharmaceutic and Medical Schools, and for Home Study. By Robert A. Hatcker, Ph. G., M.D., Instructor in Pharmacology in Cornell University Medical School of New York City; and Torald Sollmann, M.D., Assistant Professor in Pharmacology and Materia Medica in the Medical Department of the Western Reserve University of Cleveland. 12mo volume of about 400 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1904. J. A. Carveth & Co., Toronto. Flexible leather, $2.00 net.

This book contains all which it is essential for a student to know of Materia Medica, well classified and clearly presented.

Progressive Medicine, Vol. III, September, 1904. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited byHobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 284 pages, 19 illustrations. Per annum, in four cloth-bound volumes, $9.00; in paper binding, $6.00, carriage paid to any address. Lea Brothers & Co., Publishers, Philadelphia and New York.

The contents of the volume for September are: Diseases of the thorax and its viscera, including the heart, lungs and blood-vessels, by William Ewart; Dermatology and Syphilis by William S. Gottheil; Diseases of the Nervous System by William G. Spiller; Obstetrics by Richard C. Norris. We require only to mention the fact the September volume has appeared, to note its contents and to say that it is as valuable and interesting as previous ones.

Essentials of Bacteriology. By M. V. Ball, M.D. Fifth Edition. Revised by Karl M. Vogel, M.D. 243 pages, 96 illustrations. W. B. Saunders & Co., Philadelphia and New York. Toronto: J. A. Carveth & Co.

This volume of Saunders' Question-Compends gives an accurate notion of the more recent work in bacteriology, and contains a surprising amount of information in small compass. The chief characteristics of the principal bacteria have not often been so clearly presented. That section is given 40 pages of tabulation.

REGIONAL MINOR SURGERY. By GEORGE GRAY VAN SCHAICK, Consulting Surgeon to French Hospital, N.Y. Second Edition, enlarged and revised, 228 Pages, Bound in Cloth. Profusely Illustrated. Price $1.50. *International Journal of Surgery Co.*, N. Y.

The usefulness of this book is indicated by the demand for a second edition in so short a time. This edition has been subjected to a thorough revision and additional chapters have been added.

A HAND-BOOK OF SURGERY FOR STUDENTS AND PRACTITIONERS. By Frederick Richardson Griffith, M.D., Surgeon, Bellevue Dispensary. 579 pages, 417 illustrations. W. B. Saunders & Co., Philadelphia and New York. Toronto: J. A. Carveth & Co.

Medical News.

CANADIAN MEDICAL ASSOCIATION.

VANCOUVER MEETING, AUGUST 23RD TO AUGUST 26TH, 1904.

Report of General Secretary of the Thirty-Sixth Annual Meeting, held at London, Ontario, August 25th to 28th, 1903

The Constitution and By-laws of the Canadian Medical Association require a report from the secretary of the last annual meeting. Inasmuch as my report last year was referred to as being notable for its "brevity," I thought to make this one a trifle more extensive; and in so doing, in order to impress upon you the splendid growth in membership and in attendance, at the annual meetings, will present some statistics.

The first decade after the organization of the Association in 1867, shows an average attendance of seventy-one. The second decade, from 1877 to 1887, shows an average attendance of 74.8; the third, 107.6; whilst the average attendance for the past seven years is 139.1.

At the annual meeting last year, 303 names were entered on the treasurer's register. That was the second largest meeting up to that time, being only exceeded in attendance by the meeting in Montreal the previous year, when 341 names were inscribed. The third largest meeting was in Toronto in 1899, when 242 were present.

At the last meeting 111 new members were admitted, and there were present 83 members of the profession, who did not seek membership in our Association. This number is so large that I consider it important to call your attention to the fact that the mere signing of the treasurer's book and paying the annual fee, does not constitute membership in the

Association, but what is required is nomination on the regular application for membership forms, approved by the executive committee and election at a general session. By this process alone will your name be inscribed in the secretary's register of members.

It is very gratifying to record the large attendance at London last year,—303, and especially so in comparison with previous meetings in that city. It was the third time that a meeting had convened in London, the former occasions being 1880 and 1894. In 1880 the attendance was 60; in 1894 it was 92,—five times more than in 1880 and over three times more than in 1894.

Those figures emphasize, I think, the importance of Canada's national, medical organization, to the profession of this country, and certainly mark continued growth from year to year. I feel sanguine enough to prophecy that the attendance will never again go below the two hundred mark, if indeed it does not continue for the next five years to stay around three hundred or mount upwards.

Bearing this in mind, remembering the great good work it has done in the past, perhaps the most important to ourselves at all events being the organization of the Canadian Medical Protective Association—I cannot but feel it is time that the Canadian Medical Association be reorganized on the lines of the British Medical and American Medical Associations, so that we will be able to present a stronger and a more united body in the prosecution of work which lies before us.

We have in Canada, Provincial, County, District and City Societies, which could readily and easily be made branches of the Canadian Medical Association. Our provinces all have medical councils, whose territorial representatives would no doubt undertake to organize their districts into branches. In this way, systematically organized, the Canadian Medical Association would be made a power in promoting legislation and in restricting the exploitation of a class denominated "quacks," who in this keen commercial age are very often sharp, shrewd business men, having behind them frequently strong financial force.

The attendance at our two last meetings, coupled with the practice of economy, has made for the Association a bank balance of some $550. This gives us a working capital. Surely it would be well for this Association to authorize its officers or a special committee to undertake the publication of an annual volume of transactions. Towards financing this I would suggest that the Treasurer be authorized to render an account to each member on the Secretary's register, on the 1st of January of each year, for that year's membership fee. Surely no one would refuse to pay this fee annually, promptly, for a bound copy of

the annual transactions of this Association. At any rate it is time this matter was taken up with serious consideration.

This report and the suggestions embodied therein are respectfully submitted to you for your attention and consideration.

GEORGE ELLIOTT, General Secretary.

RESOLUTION ON DOMINION REGISTRATION.

The Dominion Medical Association regrets that the present mode of registration, so often and so emphatically condemned by the entire profession, still continues in force. We regret the absence of Dr. Roddick from this meeting, and thank him for his great and persistent efforts to effect a change in the method of registration. We think the time has arrived when the profession should in every way take a more active interest, and demand in a most emphatic manner the change. From no part of the Dominion can this united effort emanate than from this charming, fast-growing and resourceful city. We think a small committee should at once be formed in each province to confer with Dr. Roddick, and to devise any means which may be agreed on to effect this long deserved object. Let this Association memoralize the legislature of the Province of Quebec to pass the necessary legislation to legalize the Canada Medical Act, popularly known as the Roddick Bill, and that the Secretary set forth on said memorial the many reasons which have been so strongly advanced at the meeting why it should be done, and further that an appeal be made by the Association to the College of Physicians and Surgeons of Quebec to use their all powerful influence to have the legislation passed, and that a copy of the resolution be forwarded to the various papers in the Province of Quebec for publication.

REPORT OF COMMITTEE ON PUBLIC HEALTH.

Your committee in charge of the question of the establishment of a department of public health by the Dominion Government have the honour to report that the matter has, to a certain extent, been in abeyance since our meeting at London last year. At that meeting you will recollect we reported certain interviews with the Prime Minister and the Minister of Agriculture, at which we were led to understand that it was not feasible for the Government to give us any assurance that our wishes in the matter could be practically considered. The resolution again passed at London pressing the subject on the attention of the Government as one closely associated with the country's welfare and best interests were duly forwarded to the Dominion authorities.

It was also pointed out to the Hon. the Minister of Agriculture by the convener of your committee that the medical profession of the Dominion

as represented by the Canadian Medical Association were united in their desire to have such a department created and that they were only actuated in the matter by motives of patriotism, feeling assured that the administration of public health in matters pertaining to the Dominion Government would be greatly facilitated and rendered more useful and satisfactory if it emanated from a central department instead of having a series of branches having executive authority scattered through a number of departments of the Government.

Your Committee are gratified to be able to report that there are evidences that, during the present recess, the matter will engage the attention of the Privy Council more seriously than it has hitherto done. Before legislation could be introduced, certain questions involving much consideration will have to be settled, and we are given to understand that these preliminaries will be weighed before Parliament meets. While it is to a certain extent unsatisfactory to be obliged to report in such an indefinite way, yet we trust the Association will understand we have not been idle, but that in a matter of this kind we are in the hands of the goodwill of the Government and that it would be neither judicious or delicate to compromise the present favourable opportunity by referring in detail to the reasons that have enabled us to hazard our present opinions.

Respectfully submitted,
R. W. Powell,
Convener of Special Committee.

Resolution re Public Health.

That the Canadian Medical Association regret that the Dominion Government have not seen their way clear to carrying out the suggestions contained in the several strong resolutions of this Association, passed during the past three years on the question of the establishment of a department of public health under one of the existing ministers of the Crown.

That it be further resolved that this Association continue to press the wishes of the medical profession of the Dominion on this subject on the attention of the Government, inasmuch as we feel assured that the difficulties to be overcome in order to bring about such a desirable end are of small consequence to the public welfare compared to the beneficial results that will follow.

That the sub-committee in charge of this matter be re-appointed at this meeting and requested to continue their efforts of the past three years.

That a copy of the resolution be sent by the General Secretary to the

Rt. Hon. the Prime Minister, to the Hon. the Minister of Agriculture and to the Hon. the Secretary of State.

Resolution re Patent Medicine.

We beg to submit the following resolution to your approval: It is a well known and established fact that many of the most popular and saleable patent and proprietory medicines contain large quantities of alcohol and noxious drugs which are very injurious to the health of those making use of them, not only by their direct influence on the health but by creating a depraved appetite for their continued use, which lead to the loss and disability of many valuable lives, and that the sale of these medicines is largely due to the manner in which they are advertised, their vendors making exaggerated and misleading statements through the general press, literature, posters and pamphlets, as to their healing virtues and life saving qualities, thereby inducing sufferers from disease to purchase them to their very great injury, morally, mentally and physically. The great and growing increase in the consumption of these drugs is daily impressed on our profession by our observations of the injurious effects which are produced by them on a large and daily growing number of our population, and we feel that some urgent and effectual means ought to be adopted by those who are responsible for the health and welfare of the people that will control and restrict the sale of these most injurious and pernicious preparations.

And this Association, composed of the leading medical men from one end of the Dominion to the other, feels that the time has arrived when this great and growing evil to the public health must be suppressed; and this Association would strongly urge the Federal Government, through the department having the control and jurisdiction over matters of this nature, to take immediate steps to thoroughly investigate the nature and contents of these preparations and suppress the pernicious and misleading form of literature and advertising by which this sale is so largely brought about, and adopt such general and effectual measures in connexion with this matter as will insure the safety of the public health, and that a copy of this resolution be forwarded to the department of the Government having control of such matters.

COLLEGE OF PHYSICIANS AND SURGEONS.

The election of Governors of the College of Physicians and Surgeons of the Province of Quebec resulted as follows:—Universities—Laval, Quebec: Drs. J. M. Ahern, L. Catellier; Laval, Montreal: Drs E. P. Lachapelle, L. D. Mignault; McGill: Drs. R. Craik, H. A. Lafleur; Bishop's: Drs. F. W. Campbell, J. B. McConnell.

Governors elected by the profession:—District of Montreal—Division No. 1: Drs. A. R. L. Marsolais, J. U. Bérard, Montreal; Division No. 2: Drs. R. Boulet, H. J. Chartier, Montreal; Division No. 3: Drs. J. A. MacDonald, G. A. Brown, Montreal; Division No. 4: Dr. A. Laurendeau, St.-Gabriel de Brandon; Division No. 5: Dr. J. A. Pominville, St. Vincent de Paul; Division No. 6: Dr. E. S. Quirk, Aylmer; Division No. 7: Dr. C. O. Ostigny, Valleyfield; Division No. 8: Dr. L. A. Lessard, Granby; Division No. 9: Hon. Dr. Jean Girouard, Longueuil; Division No. 10: Dr. F. H. Daignault, Actonvale; Division No. 11: Dr. I. Sylvestre, Sorel; Division No. 12: Dr. J. A. Ropleau, Montreal; Division No. 13: Dr. J. U. Lalonde, Ste. Cunégonde.

District of Quebec—Division No. 1: Drs. A. Simard:, D. Brochu, P. V. Potvin, Quebec; Division No. 2: Drs. M. Fiset, A. Lamothe, A. Tobin, Quebec; Division No. 3: Dr. J. E. Ladrière, Lévis; Division No. 4: Dr. M. Brophy, Ste-Foye; Division No. 5: Dr. A. Riverin, Chicoutimi; Division No. 6: Dr. J. L. M. Genest, St. Bernard; Division No. 7: Dr. L. M. Moreau, L'Islet; Division No. 8: Dr. F. J. Langlois, Trois-Pistoles; Division No. 9: Hon. D. J. B. Fiset, Rimouski.

District of Three Rivers—Division No. 1: Dr. L. J. O. Sirois, St. Ferdinand d'Halifax; Division No. 2: Dr. L. P. Normand, Trois-Rivières; Division No. 3: Dr. D. A. Plante, Louiseville.

District of St.-François—Division No. 1: Drs. L. O. Camirand, Ls. C. Bachand, Sherbrooke; Division No. 2: Dr. A. Thibault, St.-Camille de Watton.

At a meeting of Governors held in Quebec on the 27th September, the following officers were elected:—President, Dr. E. P. Lachapelle, re-elected; First Vice-President, Dr. Brochu; Second Vice-President, Dr. J. B. McConnell; Registrar, Dr. Marsolais, re-elected; Treasurer, Dr. Jobin, re-elected; Secretary for Montreal, Dr. J. A. Macdonald, re-elected.

Before proceeding to the election of officers for the coming term and the appointment of the permanent committees, the Board took up the case of the contested election, Division No. 2, in Quebec, where a recount of ballots had been asked for and a special committee appointed. After having heard both sides, the committee decided that three votes were null, and so had to be deducted from the number of votes obtained by the returning officer. This decision altered the results of the election as returned to the Board by the returning officer, and in consequence Dr. Potvin was replaced by Dr. Jobin.

The Board then instructed the Executive Committee to undertake negotiations with the Universities of the province in order to ascertain if it was possible to come to an understanding so as to have a central

board of examiners established for the examination of all candidates for license.

The Board also authorised the Executive Committee to apply to the legislature at its next session to have the law amended so that the medical curriculum should extend over five years instead of four, as at present. It was also agreed that as soon as possible the whole of the medical act should be revised according to the needs of the time, to put the profession in the province on the same footing of efficiency as in other countries.

It was decided also that the Secretary for Montreal be authorised to put himself in communication with the General Secretary of the College of Physicians and Surgeons of England to find out what had been done with regard to the bill which was presented in the House of Commons in England amending the law so as to authorise the reciprocity of licenses between the British College of Physicians and Surgeons and the Colleges of Physicians of the different provinces in the British Colonies.

McGILL JOURNAL CLUB.

The McGill Journal Club, with a view to increase the value of its enterprise, has addressed to the French-speaking members of the profession a communication, of which the following is a translation:—

We desire, in a special manner, to draw the attention of our French-speaking confrères residing in Montreal, or the district of Montreal, to the establishment of the McGill Journal Club. The object with which this new society has been founded is the following:—The medical library of McGill University enjoys deservedly an enviable reputation throughout this continent; nevertheless, the list of its periodicals is far from complete, and not a few eager searchers after truth, hunting up a reference, have been met with the discouraging reply that the library did not receive the journal in question. To bring a remedy to this state of things is the object of the McGill Journal Club.

The club begins with a membership of nearly sixty, comprising a majority of the teaching staff of the Faculty. The subscription price has been fixed at $2.00 a year; and the funds obtained are to be employed entirely in subscribing to such standard medical journals as are not received by the library nor by the various laboratories.

These journals are to be kept upon special shelves in the library, and the club members shall have the right to take them home for perusal, with due regard to the rules already in force for other journals in the library.

To our French-speaking confrères we wish, in this connexion, to

make a particularly cordial appeal: we desire them to know that the authorities of the McGill Library bid them heartily welcome at all times, but particularly so if they will join forces with us in this work. Every French physician who will do us the honour of coming to the library will be made welcome to the use of the library gratuitously.

There can be no doubt that our French confrères, in investigating a subject, have met the same difficulty as ourselves, that of a lack of standard periodical literature. For this reason is it that we invite them cordially to become members of the McGill Journal Club, which is, and always will be, quite independent of the University or the library. We aid the library by subscribing to journals which it does not receive; but in exchange, it affords us the necessary room for the keeping of our periodicals, which at the end of each year are donated to the library for permanent preservation.

McGill possesses already a respectable number of French medical journals. In addition to these, the club has already decided to subscribe to others, whose numbers will increase in direct ratio to the increase in the French membership.

MONTREAL GENERAL HOSPITAL.

The quarterly meeting of the Montreal General Hospital, postponed from August, was held on the 20th September. A notice of motion was introduced that the quarterly meetings be discontinued, and that only the yearly and half-yearly meetings be held.

In connexion with the outdoor department, plans have been prepared and contracts given out, amounting to about $1,500 for the construction of two special rooms for skin clinic and neurology.

According to the report read by the acting secretary, 781 patients were treated to a conclusion during the quarter. There were 67 deaths, of which 26 occurred within three days of admission, making the mortality for ordinary hospital cases 5.5 per cent. In the outdoor department there were 9,072 consultations, as compared with 8,651 of the corresponding quarter of the previous year. The ambulances responded to 357 calls.

The receipts for the quarter have been $16,071, or $17.00 over the same quarter last year, and the expenditure $21,521, or $23.04 less than the corresponding quarter of last year.

There were admitted to the wards during the month of August 283 patients, 84 of whom were medical, 168 surgical, the remainder being divided among the specialties. During the month there were 16 deaths. In the Out-door Department there were 2,717 consultations, and the ambulance responded to 130 calls.

ST. FRANCIS MEDICAL ASSOCIATION.

The annual meeting of the district of St. Francis Medical Association was held in Sherbrooke on Wednesday, September 14th. Dr. L. C. Bachaud, President, occupied the chair, and there was a good attendance of the members.

The election of officers for the year 1904-5 resulted as follows:—President, Dr. F. J. Austin, Sherbrooke; 1st Vice-President, Dr. S. A. Banfill, East Angus; 2nd Vice-President, Dr. W. Lamy, Sherbrooke; Secretary-Treasurer, Dr. E. J. Williams, Sherbrooke; Assistant Secretary-Treasurer Dr. J. I. Ledoux, Sherbrooke; Council, Drs. Camirand, King and Bachaud; Chairman of Surgical Section, Dr. A. N. Worthington; Chairman of Medical Section, Dr. W. Lamy.

The meetings of the society are held each alternate month on the second Wednesday.

ROYAL VICTORIA HOSPITAL.

Report for month ending August 31st, 1904: Patients admitted, 268; patients discharged, 264; patients died, 8; ambulance calls, 76; medical, 92; surgical, 108; ophthalmological, 26; gynæcological, 31; laryngological, 8. Outdoor department: medical, 885; surgical, 402; ophthalmological, 399; gynæcological, 137; laryngological, 253; total, 2,076.

WESTERN HOSPITAL.

Report for month ending 31st August. Indoor—There were 42 patients admitted during the month and 41 discharged; 4 died; of these 16 were medical, 19 surgical and 7 gynæcological. Outdoor—There were 620 consultations, 233 medical, 93 surgical, 112 gynæcological, 59 eye and ear, 63 nose and throat, 21 skin 39 geinto-urinary.

CHILDREN'S MEMORIAL HOSPITAL.

Report for the month ending August 31st:—The aggregate number of days spent in this Hospital by all patients during August was 744, as against 611 during the month of July. The highest number on any one day was 25; the average number was 24.

The resignation of Dr. T. F. Chamberlain, Inspector of Prisons and Public Charities, has been accepted by the Provincial Secretary's Department. Dr. Chamberlain's health during the past six months has been such as to necessitate his taking this step. He will be succeeded by Dr. R. W. Bruce-Smith, assistant physician at the Asylum for the Insane at Brockville. Dr. J. C. Mitchell, of the Toronto Asylum staff, has been appointed assistant physician at Brockville, to succeed Dr.

Smith, and Dr. Harris, at present relieving officer for the public institutions, has been appointed to the position vacated by Dr. Mitchell. Dr. R. W. Bruce-Smith formerly practised in Seaforth, and in 1895 was President of the Ontario Medical Association. Prior to going to Brockville, he was assistant physician at the Hamilton Asylum.

The Marine hospital, which was erected by the Dominion Government at Louisburg last summer is practically completed.

The new hospital building at Rat Portage was formally opened on the 18th September. It will cost when finished $15,000.

Mr. Cawthra Mulock has offered $100,000 for the building, equipping and furnishing of an out-patient department in connexion with the Toronto General Hospital.

The corner stone of the Moose Jaw hospital was laid on the 19th September. The building when completed will cost $20,000, of which over $12,000 has been subscribed.

The Sanitarium for Consumptives which the National Association has built near Weston has been finished, and is now open for patients. The situation is a good one, on a high bluff above the Humber River, and includes about thirty-seven acres of land.

Dr. Cheffey, a prominent and well-known personality in the County of Simcoe for over half a century, died in Toronto on 10th September, in the 78th year of his age.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

Spencer Graves, M.D. "A New Operation For Pyothorax." *Medical Record*, Aug. 6, 1904.

The object of this report is to submit for consideration the following operation. Removal of the entire rib anterior to the opening for drainage, which should be as near the posterior wall of the suppurating cavity as possible, the purpose of this being to prevent deformity, and resection of rib above or below, for adequate drainage in some recent cases of empyema. Removal of entire rib if necessary, two ribs (except the head) with resection of one for drainage in chronic cases for the

purpose of contracting suppurating cavity. The rib removed should be the one passing over the centre of the cavity, or a little below this point. The sixth rib will generally be found to pass horizontally over the trough-like cavity a little below the centre. As the chest more readily contracts at this point than lower down, he believes in the majority of cases it will be found better to remove the sixth rib.

J. S. Stone, M.D. "Subperiosteal Fractures of the Humerus in Children." *Boston Medical and Surgical Journal*, Aug. 11, 1904.

Five cases of fracture of the surgical neck in children are reported. They illustrate the dangers of overlooking these fractures in children, and call attention to the symptoms by which such fractures may be diagnosed in the absence of the usual signs of fracture. A subperiosteal fracture is to be distinguished from a green-stick by the fact that in the latter we have an angular deformity but no lateral displacement, while in the former the fracture is transverse and accompanied by a lateral displacement. The term subperiosteal was applied to these cases because the slight impaction was considered to be insufficient to have held the fragments in relation to each other, and that when we have absence of shortening, or marked deformity, of crepitus, and abnormal mobility, they must be explained in part by impaction but chiefly by the toughness and strength of the periosteum.

When after a fall on the arm or shoulder children are unable to abduct the arm but present none of the other signs of fracture or dislocation and are able to move the arm in other directions most careful examination should be made to determine localized tenderness anteriorly just below the head of the humerus, together with a slight irregularity in the contour of the bone at that point. These signs are sufficient to establish a diagnosis of fracture of the surgical neck, and should deter one from further attempts to secure crepitus or mobility.

Clarence A. McWilliams, M.D. "Intestinal Obstruction Following Appendicitis Operations. Report of Eighty-Six Cases." *Medical News*, Aug. 27 and Sept. 3rd, 1904.

From a careful study of the cases reported the writer draws the following conclusions. The rarity of intestinal obstruction in comparison with the innumerable operations for appendicitis is noteworthy. Obstruction may follow an attack of appendicitis which has not undergone operation. This occurred in 10 per cent. of the cases reported. Obstruction may follow the interval operation, as it did in 9 per cent. Obstruction is most apt to follow appendicitis with abscess formation.

Eighty-one per cent were of this class. Hence the necessity for early operation. Mechanical obstruction may come on within a short time after the appendicitis operation when the differential diagnosis from that due to peritonitis may present great difficulties. Operation is advised when in doubt about such cases. Obstruction may occur years after the original attack or operation, ten cases occurred in the second year, when it may come on suddenly in perfect health or preceded by a period with symptoms denoting partial occlusion. There may be several attacks of true mechanical obstruction: eight per cent. gave such histories. The mortality for obstruction is placed at 33.7 per cent. The small intestine was occluded in all the cases where it was noted. The cause of obstruction is given in 53 cases as follows: Constrictions by bands in twenty-eight cases; volvuli in ten; kinking or angulation in eleven; and internal hernias in four Prophylaxis consists in operation upon appendicitis before the formation of pus, the use of as little drainage as possible, and the least possible handling of the intestines at the time of operation. Vigorous abdominal massage with elevation of the hips may avert an impending obstruction. Frequent change in patient's position is likewise recommended. Since the exciting cause is in many cases an attack of acute indigestion, patients should have their diet regulated for them from four to six weeks after an attack of appendicitis or an operation.

A. W. Mayo Robson, F. R. C. S. "Peptic Ulcer of the Jejunum." *Annals of Surgery*, August, 1904.

This report is believed by the writer to be the first case described in English literature. The condition has been recognized but recently, Braun having first described it only four years ago. Up to the present 16 cases are on record, but all of these were perforating ulcers, it goes without saying there must be many now unrecognized, and many others that have caused death by abcess, and in other ways in which adhesions and other complications have so obscured the parts that even an autopsy failed to diagnose the true nature of the disease.

The true cause of peptic ulcer is that of a mild infection, the sequence of events being septic gastritis, hyperchlorhydia, and ulceration. The source of infection in many cases would appear to be oral, as witness the greater frequency of this condition among the poorer classes.

Peptic ulcer is distinctly one of the sequelæ to be reckoned with after gastro-enterostomy, though much more likely to occur after the anterior than the posterior operation. So far it has not occurred after pyloroplasty. Eleven of the cases reported recurred after the anterior,

two after the posterior, and one after the Y operation of Roux. Out of 136 posterior operations the writer has not had one case of peptic ulcer follow, and a colleague has the same result in 100 posterior cases. The writer's case was in a male, aged 44, and occurred three years and four months after an anterior gastro-enterostomy performed for relief of gastric ulcer. The patient's condition was such as not to warrant any prolonged operation so only a gastro-enterostomy was done, though at the time the pyloma and first part of the duodenum were very much thickened, evidently the result of ulceration. Pain referred to the epigastrium was the chief symptom, it was unaccompanied by vomiting, of a most intense character, occurring at first at intervals of a month or two, becoming more frequent until daily, and for a week previous to operation dark blood had been noticed in the motions. The stomach was found adherent to the anterior abdominal wall. On separating the adhesions it was found that ulceration had occurred at the junction between bowel and stomach, that it involved the whole circumference of the jejunum at that point, and to have completely extended through the intestinal wall at the front. The pyloric orifice was found to be completely occluded as a result of former ulceration. The ulcerated portion of bowel was excised and separated from the old opening in the stomach, the edges of which were pared, the distal end of the jejunal loop was implanted in this opening, the proximal end implanted into the jejunum four inches lower. Bone bobbins were used as aids in the anastomoses. The case is reported in good health six months after the operation.

John B. Murphy, Chicago. "A Method of Dispensing with Rubber Gloves and the Adhesive Rubber Dam." *Jour. Am. Med. Ass.*, Sept. 17, 1904.

E. W. Sikemeier. Contribution to Our Knowledge Concerning the Disinfection of the Human Skin." *Arch. f. Klin. Chir. Bd.* 73. *Heft.* 1.

To judge from the number of articles constantly appearing upon skin disinfection, we are still far from the goal of perfection in this matter. The two latest contributions above quoted are the latest, and represent well the two national types of scientific work: the German painstaking and exhaustive, bringing us a step farther upon lines already laid down: the American short and practical, with just enough laboratory work to prove the point desired, but bringing us into a new—and profitable—part of the field. The former occupies 16 pages, the latter one and a half.

Sikemeier found that the success of the ordinary brush, scrubbing

with the Mikulicz soap-spirits, now rather widely used in Germany, was much increased, if one preceded it with the ordinary alkaline (potash) soap, under a constant stream. This is the kernel of his communication. His procedure is as follows: Five minutes brushing with alkaline soap (Kaliseife) under a constant stream of water; another five minutes with ordinary soap and water; finally five minutes scrubbing with spirits of soap; following this, ether and sublimate. All this is said to give almost perfect asepsis. Fifteen minutes with a stiff brush is required.

Murphy suggests a less strenuous, yet (to judge from the bacteriological reports), a more effective method of disinfection. It consists, briefly, in the application of a 4 to 8 per cent. solution of gutta percha in benzine or acetone—the benzine solution for use on the hands, the acetone for surface application at and around the field of operation. The 4 per cent. benzine solution has proven the best for wear. The method of preparing the solution should be read in the original. Murphy's conclusion, based upon the bacteriological examinations done by his assistant, Dr. Dunn, is that "the solution, while not so perfect a protection to the patient as intact gloves, is infinitely superior to the bare hands, and is equal to or superior to the glove, considering the chances of puncture."

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND W. F. HAMILTON.

MAJOR C. DONOVAN, I.M.S.; "Human Piroplasmosis." *The Lancet,* Sept 10, 1904.

The investigations carried on independently during the past year by Major Donovan and Major Leishman have added one more to the list of tropical diseases caused by sporozoan parasites. Many points concerning the life history of the parasite and the details of the symptoms and complications of the disease are not yet fully worked out, but at least the existence of a definite disease is established, which is readily recognized both clinically and pathologically.

The disease is apparently wide-spread, and very prevalent in certain districts. It includes many cases formerly classified as malarial cachexia, the disease known as kala-azar in Assam, many cases of irregular pyrexia in India, possibly Delhi boil and other diseases. It is a chronic affection, characterized by irregular pyrexia, enlargement of the spleen, bronchitis, œdema of the feet, subcuteneous hæmorrhages, diarrhœa and cancrum oris. The course of the disease is variable, usually lasting several months and it is almost invariably fatal. Quinine

and other remedies so far used are entirely ineffectual. The diagnosis depends on the demonstration of the parasite. This has been isolated from the blood and ulcers of the skin, but is most readily found in the blood obtained by puncture of the spleen. Its exact zoological position is still uncertain, some authorities classifying it as a trypanosoma and others as a piroplasma, similar to the organism causing Texas fever in cattle.

Richard C. Cabot, M.D. "The Relation of Alcohol to Arteriosclerosis."

Scepticism touching the etiological relationship borne by alcohol to arteriosclerosis is producing evidence to show that such a relation exists in but a small proportion of cases, if indeed at all. From clinical and post-mortem evidence, Dr. Cabot draws the following conclusions:—

1. Only 6 per cent of 283 cases of chronic and excessive alcoholism under 50 years of age showed any arteriosclerosis.

2. Of 45 cases of arteriosclerosis examined, only 13 per cent gave any history of alcoholism.

3. Of 656 autopsy cases of arteriosclerosis, only 95 or 14·5 per cent were under the age of 50.

4. Out of these 95 cases, under 50, in which arteriosclerosis was found post mortem only 21 per cent, and if we exclude cases complicated by chronic nephritis, only 17 per cent appear to have consumed alcohol in any notable excess.

G. W. Crile, M.D. "Summary of an Experimental Research into Strychnine in Shock and Collapse, with Illustrative Protocols." *New York Medical Journal*, September 24th, 1904.

In the majority of instances, in the normal animal, when sufficient amount of strychnine was given to cause an increased excitability of the spinal cord, as indicated by heightened reflexes and an increased muscular tone, a rise in blood pressure was noted. In smaller doses, occasionally, a slight immediate fall, a slight immediate rise, or later irregularities were noted; but on making forty-eight careful measurements, it was found that no noteworthy change occurred. In a series of experiments in which convulsions were prevented by physiological doses of curare, and convulsive doses of strychnine given, the blood pressure rose as high as in the experiments in which convulsions did occur. In another series, both vagi and accelerantes were severed, curare given, and varying doses of strychnine administered. The general effect upon the blood pressure did not differ materially from

the effects of corresponding doses upon the normal animal. Small doses of strychnine, on the whole, seemed to improve respiration. Larger doses were frequently followed by respiratory failure. After the blood pressure had reached the stage of terminal helplessness, the administration of saline solution caused a rise, which continued for some time during the flow. On cessation of the saline infusion, the blood pressure fell to the previous level, and, if the infusion continued beyond a certain limited period of time, the blood pressure fell to or near its former level during the infusion.

F.F. Ricketts, M.D., and J. B. Byles, M.L. "The Red Light Treatment of Small-Pox." *Lancet,* September 17th, 1904.

Temperature charts and photographs of 13 cases are reproduced to show that the treatment "wholly failed to prevent or check the normal development of the lesions."

N. Bishop Harman, M.B. "The Visual Fields in Tobacco Amblyopia" *Lancet,* 17th September, 1904.

The cases which Mr. Harman has investigated "indicate that the commonly received view of the visual field is not correct—i.e., the vision is not affected centrally alone, it is found to be diminished peripherally when a sufficiently delicate test is used, and perhaps also over the whole field. At the same time the fields show a reasonable explanation for the frequently repeated assertion of patients that they see better in the dim light than in full daylight."

The attention of the profession at this time of year is being directed to the value of various places in the United States as health resorts for the winter. Before the claims of Saranac, Ste. Agathe and Calgary, in connexion with the cure of tuberculosis, were admitted, Denver easily held the first place, and still does so in the minds of many. The claims of California are very strong, especially those of Los Angeles. In both of these places graduates of McGill are to be found; in Denver Dr. W. S. Philp, and in Los Angeles Dr. E. J. A. Rogers, who devote themselves to the treatment of those diseases for which the climate of these regions is held to be favourable. For the benefit of patients who may intend to make a sojourn in the United States, we have compiled a list of graduates of McGill who are resident there, and it may be had upon application. It is always a satisfaction to a patient in a strange place to secure the services of a physician of whose antecedents they are assured.

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ADDRESS IN SURGERY

CANADIAN MEDICAL ASSOCIATION, VANCOUVER, AUGUST 24, 1904.

PANCREATIC INFLAMMATIONS IN THEIR RELATIONSHIP TO CHOLELITHIASIS, AND THEIR TREATMENT.

BY

A. W. MAYO ROBSON, F.R.C.S.,

Vice-President and Hunterian Professor, Royal College of Surgeons, England.

Mr. President and Gentlemen:

Your kind invitation to give the address in Surgery before the Canadian Medical Association, accompanied as it was by other temptations, especially that of a visit to this delightful and important part of Greater Britain, left me no choice but to accept the proposed honour.

My only difficulty lay in the selection of a subject, but as I have been for some time working on the Pathology and Surgery of the Pancreas, I ventured to think that pancreatic inflammations in their relationship to cholelithiasis might prove of sufficient interest and importance to engage your attention. If my surmise falls short of my wishes and of your expectation, I must before-hand crave your forgiveness.

Among the many complications of gall stones, pancreatitis in its various forms is now known to be one of the most important, though the relationship has only comparatively recently been recognized. The bile ducts and the pancreas are so intimately related in their development and their anatomy that it can excite no surprise to find them frequently associated in their diseases; and though we frequently find cholelithiasis without pancreatic troubles, it is much less common to have inflammation of the pancreas, whether acute, subacute or chronic, without finding common duct cholelithiasis. The reason for this association is not far to seek; it is due to the junction of the common bile duct and the duct of Wirsung at the ampulla of Vater and their common opening into the duodenum, a channel always containing organisms ready under certain circumstances to invade and become virulent.

Pancreatitis is probably always a secondary disease and usually de-

pendent on infection spreading from the common bile duct or duodenum. It may be asked, if common duct cholelithiasis and pancreatitis are so often associated, why should some cases of common duct obstruction go on for months or years without the pancreas participating?

As I shall hope to show by lantern slides and by clinical evidence, the explanation of the presence or absence of pancreatitis as a complication of cholelithiasis is an anatomical one, though the degree of inflammation when infection does occur, is in a great measure a vital process, dependent on the powers of resistance of the individual.

I must ask you to excuse me for taking you back to the dissecting room for a few minutes, as though doubtless you are well acquainted with the normal anatomy of the pancreas, there may be some who are unacquainted with the great number of variations that may be encountered; which varieties may save a patient from or may commit him to pancreatitis should he be unfortunate enough to suffer from common duct cholelithiasis.

The common bile duct starting by the junction of the cystic and hepatic duct courses along the free border of the lesser omentum associated with the portal vein and hepatic artery, it then passes behind the first portion of the duodenum and soon comes into relation with the pancreas, which it either grooves deeply or passes through or behind, before it pierces the wall of the second part of the duodenum, where it empties into the diverticulum of Vater along with the duct of Wirsung. It may be divided into four portions—

(a) The supra-duodenal portion.
(b) The retro-duodenal portion.
(c) The pancreatic portion.
(d) The intra-parietal portion.

The latter two only are important for our present purpose.

If the choledochus passes behind and not through the head of the pancreas the duct may escape pressure when the pancreas is congested or otherwise swollen; whereas if it pass through the gland, any congestion or swelling of the pancreas will, by pressing on the common bile duct, bring on jaundice with its various sequelae. Thus is explained to my mind many of the cases of so-called catarrhal jaundice, which may come on as an extension from gastro-duodenal catarrh, or in the course of a pneumonia, or during typhoid fever, influenza and other ailments, and which I believe to be often dependent on catarrhal inflammation of the pancreas leading to pressure on the bile ducts. In some cases I have proved this hypothesis to be correct at operations undertaken for chronic jaundice.

As the duct is completely embraced by the pancreas in 62 per cent. of all cases, we may conclude that in nearly two-thirds a swelling of the head of the pancreas will produce jaundice; and, curiously, this percentage coincides with Dr. Cummidge's and my clinical observations and pathological investigations on the urine of pancreatic cases.

Not only so, but when the head of the pancreas embraces the common bile duct, should a gall stone pass down, it will almost certainly exercise pressure on the gland, and thus directly interfere with its function and with the discharge of its secretion.

The fourth portion is where the duct enters the wall of the second part of the duodenum and ends in the ampulla of Vater, into which small cavity the duct of Wirsung also debouches. This part of the common duct comprises all that portion of the canal contained in the thickness of the wall of the duodenum. It passes obliquely through the muscular coat of the intestine, and then dilates into a little reservoir underneath the mucous membrane, into which the main pancreatic duct also opens. This is known as the ampulla of Vater. This ampulla, a little oval cavity, may be well seen in a section of the wall of the duodenum in the axis of the common duct. The opening of the common duct is above that of the pancreatic duct, and the two are separated by a little transverse fold of mucous membrane. The ampulla measures from six to seven millimetres in length, and from four to five in breadth, and with the termination of the two ducts, is surrounded by a thin layer of unstriped muscular tissue, forming a sphincter (Oddi).

The ampulla opens into the duodenum by a little round or elliptical orifice, which is the narrowest part of the bile channel. It is important to note that the length of the diverticulum of Vater may vary from zero to 11 millimetres, the average being 3·9 millimetres, according to Opie, who measured 100 specimens. Viewed from the interior of the duodenum, the ampulla forms a rounded eminence of the mucous membrane, known as the caruncula major of Santorini, the opening being seen at the apex of the caruncle. It is distant 8 to 12 centimetres from the pylorus. Above it there is constantly found a small fold of mucous membrane, which must be raised in order that the caruncle and its orifice may be clearly seen. Running downwards from the caruncle is a small vertical fold of mucous membrane, known as the frenum carunculae. Above the caruncula major is found a smaller eminence, the caruncula minor, marking the termination of the accessory pancreatic duct, or duct of Santorini, which opens into the duodenum about three-quarters of an inch above the biliary papilla.

The mode of formation of the ampulla of Vater and the termination

of the common and pancreatic ducts are liable to great variations. Letulle and Nattan Lorrier distinguish four types, to which may be added a fifth, recently shown by a dissection now in the Hunterian Museum.

The first type is the classical one, which is described above. In the second type the pancreatic duct joins the common duct some little distance from the duodenum, the ampulla of Vater is absent and the duct opens into the duodenum by a small flat, oval orifice. In the third type the two ducts open into a small fossa in the wall of the duodenum, while the caruncle and the ampulla of Vater are absent.

In the fourth type the caruncle is well developed, but the ampulla is absent, the two ducts opening side by side at the apex of the caruncle.

In the fifth type, the common bile duct opens along with the duct of Santorini, and Wirsung's duct enters the duodenum separately.

It will be readily understood that, under ordinary circumstances, when a gall stone passes along the common bile duct and reaches the ampulla of Vater, it will not only occlude the bile passages, but also the chief excretory duct of the pancreas, the secretion of which will be retained. Should infection occur, pancreatitis becomes inevitable, and on the condition of the individual as well as on the nature of the infection will depend what occurs, whether a mild catarrh of the pancreatic ducts, an interstitial pancreatitis, an extremely serious suppurative catarrh or a parenchymatous inflammation in the shape of acute pancreatitis.

Opie, finding in one case a very small gall stone and a large ampulla of Vater, constructed a pretty theory, which is probably true in some rare cases, as in the one reported from Dr. Halsted's clinic in the Johns Hopkins Hospital, and in another case that occurred in Buffalo, which was mentioned to me by my friend, Dr. Roswell Parke, but which, I believe, has not yet been reported. Opie says that under these circumstances the bile and pancreatic ducts are converted into one direct tube, as shown in the diagram, and that the bile being forced into the pancreatic duct sets up acute pancreatitis.

He appears to think that pure non-infected bile is capable of doing this, and he has apparently demonstrated the possibility by experiments on animals. For my own part I believe that infection is the important factor, and that the bile is simply the conveyor of infection.

That this anatomical arrangement described by Opie is not necessary in order that acute pancreatitis may develop is shown by cases reported where no gall stones were present, and by an instructive case under the care of Dr. Fison, of Salisbury, where at the autopsy of a fatal acute pancreatitis a gall stone was completely filling the ampulla of Vater,

and occluding both the bile and pancreatic ducts. It will be seen that, while the normal termination and the second variety of termination of the ducts will favour the onset of pancreatitis in case of common duct cholelithiasis, the variations 3 and 4 in which the two ducts are separate will possibly save the patient from the serious secondary pancreatic troubles, and in variation 5 a small portion of the gland only will become infected.

But the pancreatic ducts themselves are also subject to great variations that may influence the course of events. The beautifully dissected specimen from the Hunterian Museum, a photograph of which I throw on the screen, and the X ray photograph of Wirsung's duct injected with mercury, also shown, demonstrate the normal anatomy of the pancreatic ducts, and show how the lobules have each a separate duct that opens into the main channel or duct of Wirsung, which itself opens into the ampulla of Vater, or directly into the duodenum, as described; but it will also be noticed that a smaller channel, the duct of Santorini, usually discharges some of the secretion of the pancreas directly into the duodenum, and that in a certain proportion of cases the two ducts communicate.

The diagrams I now point out will explain this. They show the result of observations by Opie on 100 cadavers, in which the ducts were injected and photographed, with the following results.

In 90 specimens the two ducts are united; in 10 two wholly independent ducts enter the intestine.

(1) Of the ducts in anastomosis.

1. Duct of Wirsung larger in 84
   (a) Duct of Santorini patent in 63.
   (b) Duct of Santorini not patent in 21.
2. Duct of Santorini larger in 6.
   (a) Duct of Wirsung patent in 6.
   (b) Duct of Wirsung not patent, 0

(2) Ducts not in anastomosis in 10.
   (a) Duct of Wirsung larger in 5.
   (b) Duct of Santorini larger in 5.

In 89 per cent. the duct of Wirsung was larger than the duct of Santorini. In 21 per cent. the duct of Santorini was apparently obliterated near its termination. In six cases the duct of Santorini was larger than the duct of Wirsung. In all cases where the duct of Santorini is patent it diminishes in size towards the duodenum. Thus the duct of Santorini cannot be relied on in many cases to supplement

the duct of Wirsung, if it be obstructed; moreover, the duct of Santorini, even if patent and communicating with the duodenum, may itself be compressed by a moderate sized gall stone, passing down the pancreatic portion of the common duct. Now, it might be argued that if the two ducts communicate, why should not the duct of Santorini act as a safety valve to the duct of Wirsung when it is compressed and thus free the pancreas from the retained secretion which is in danger of becoming septic.

It will be seen that in only half or less than half of all cases will the duct of Santorini act as a safety valve if the duct of Wirsung is obstructed, for although in 63 per cent. of cases the duct opens at the same time into the main channel and into the intestines, yet in probably less than half of these is the anastomosis efficient as a through channel.

The reasons why gall stones in the common bile duct do not always produce pancreatic inflammation are—

(a) Some gall stones are so large that they never reach the pancreatic portion of the duct, but remain in the supraduodenal portions of the common duct, producing jaundice but no pancreatitis.

The following is an example:—Mr. S.—, aged 65, had for two years been subject to occasional attacks of epigastric pain. In January, 1903, a severe attack was followed by jaundice, since which time he had rapidly lost weight, and the jaundice had never disappeared. Pain after food had been a marked feature. He had neither vomited blood nor had malaena. There was no dilatation of the stomach and no evidence of tumour. The recti were rigid. He was seen by a well-known physician, who diagnosed cancer of the pancreas. An examination of the urine, however, showed an entire absence of pancreatic crystals, proving the absence of cancer and of inflammation of the pancreas. An operation was performed on November 24th, 1903, when a gall stone the size of a filbert was discovered in the supraduodenal portion of the common duct and removed through an incision, which was afterwards sutured. The pancreas appeared normal. The gall bladder was drained. Recovery was uninterrupted, and the patient is now well.

(b) In some cases the bile ducts and pancreatic ducts open by separate orifices, as shown in the illustrations, and any gall stone passing down the common duct will then not necessarily compress or occlude the pancreatic duct.

(c) In exceptional cases the duct of Santorini is the principal outlet for the pancreatic fluid, it being of such a size as to afford a safe outlet to the secretion even when the duct of Wirsung is obstructed.

In order to make the relationship between gall stones and inflammation of the pancreas quite clear, I shall give the classification of pancreatitis that I recently proposed in the Hunterian lectures, which, I believe, includes all the varieties. Pancreatic inflammation may be catarrhal, in which the inflammation trouble is in the ducts, or parenchymatous, in which the substance of the pancreas is involved. The former resemble the different forms of cholangitis, with which, indeed, they are frequently associated; the latter bear more resemblance to inflammatory affections of the appendix, "suppurative and gangrenous appendicitis." The following shows the classification at a glance:—

Catarrhal Inflammations:—

(a) Simple catarrh, acute and chronic.
(b) Suppurative catarrh.
(c) Pancreo-lithic catarrh.

Parenchymatous Inflammations:—

Acute:

(a) Hæmorrhagic pancreatitis.
    1. Ultra-acute, in which the hæmorrhage precedes the inflammation, the bleeding being profuse and both within and outside the gland.
    2. Acute, in which inflammation precedes the hæmorrhage, which is less profuse and is distributed in patches through the gland.
(b) Gangrenous pancreatitis.
(c) Suppurative pancreatitis (diffuse suppuration).

Subacute:

Abscess of the pancreas (not diffuse suppuration).

Chronic:

(a) Interstitial pancreatitis.
    1. Interlobular.
    2. Interacinar.
(b) Cirrhosis of the pancreas.

Although in my address to-day I am only dealing with one cause of pancreatic trouble, yet it is the chief one, and in a very large percentage of cases the only cause of pancreatitis in its various forms; but in order to make the position clear, I will relate the other etiological conditions.

The etiology of pancreatitis may be classified under predisposing and exciting causes. Among the predisposing causes are:—

(a) Obstruction in the ducts, the result of gall stones, duodenal catarrh, pancreatic calculi, cancer of the papilla or of the head of the pancreas, ulcer of the duodenum, followed by cicatricial stenosis of the papilla, ascarides and lumbrici.

(b) Injury either from a bruise as by manipulation in operating, or from a crush, as by a blow in the epigastrium, or from wounding by a sharp instrument.

(c) Hæmorrhage into the gland.

(d) General ailments, such as typhoid fever, influenza and mumps.

(e) Certain anatomical peculiarities in the pancreas or its ducts.

(f) Atheroma or fatty degeneration of the blood vessels.

(g) New growth, e.g., cancer or sarcoma.

The chief exciting causes are:—

1 Infection conveyed—

(a) From the blood as in syphilis or pyæmia.

(b) From the duodenum, as in gall stone obstruction or gastro-intestinal catarrh.

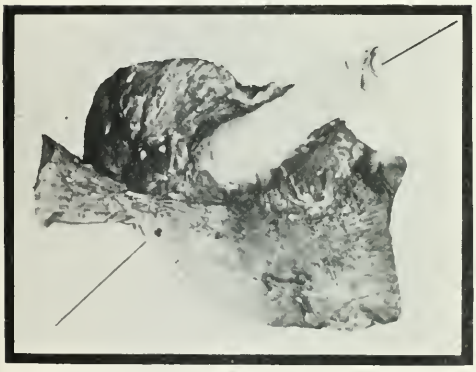
(c) By extension inwards from adjoining organs as in gastric ulcer or cancer eroding the pancreas.

2. Irritation as in alcoholism (doubtful).

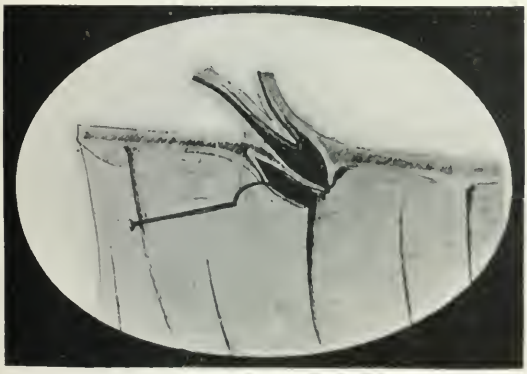
So long as the concretions remain in the gall bladder or cystic duct it is unlikely that the pancreas will participate in the cholecystitis, unless the gland has been originally infected from the duodenum, as possibly occurring in the following case:—In this case, gall stones in the gall bladder were associated with catarrh of the pancreas, which must have either been due to an extension of the catarrh of the gall bladder and bile ducts to the pancreas, or have resulted from the passage of a gall stone from the common duct on some further occasion, which had led to infection both of the bile and pancreatic ducts. A lady, aged 50, had for several years suffered from attacks of distinct biliary colic, which during the past two months had been followed by jaundice, fever and collapse. There had recently been loss of flesh. On examining the urine, fine pancreatic crystals were discovered, and at the operation on April 30th, 1903, forty gall stones were removed from the gall bladder and cystic duct. None were found in the common duct, though the head of the pancreas was distinctly swollen and harder than normal. The gall bladder was drained. The patient made a good recovery and is now well. Normal weight has been regained, and there is no longer any evidence of disturbed metabolism.

Even if gall stones pass into the common duct and are not long

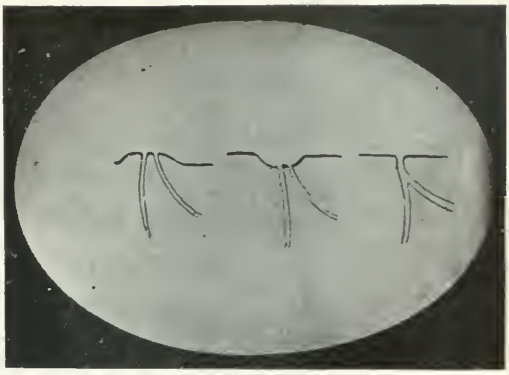
I. Diagram to show the Common Bile Duct passing through the Head of the Pancreas, a portion of which is reflected. (Viewed from behind.)



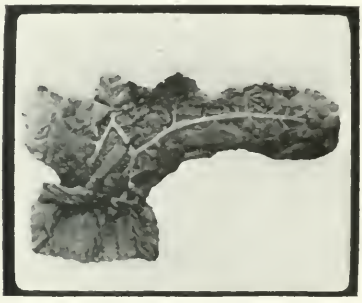
II. Photograph from specimen in St. Thomas' Museum to show gall-stone impacted in the Pancreatic portion of the Common Duct and exercising pressure on the Pancreas.



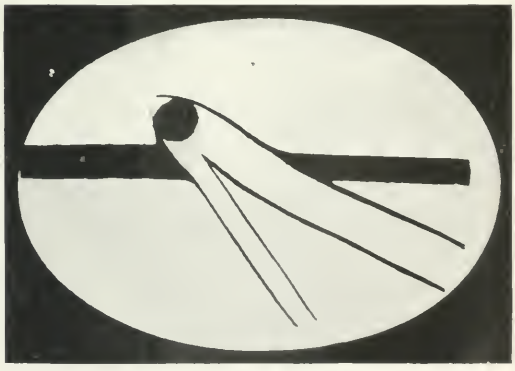
III. Ampulla of Vater.



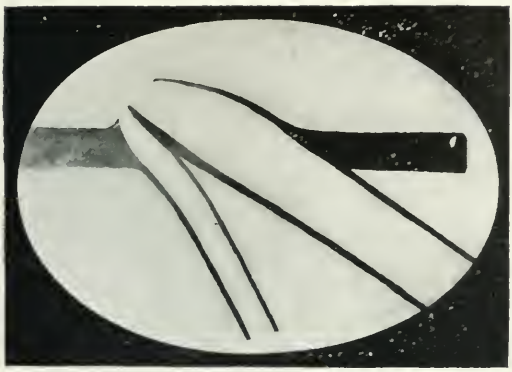
IV. Diagram to show the 2nd, 3rd and 4th variations in the termination of the bile and pancreatic ducts and the duodenum.



V. Photograph of specimen in the Hunterian Museum, R.C.S., showing the Common Bile Duct joining the Duct of Santorini.



VI. Diagram to illustrate how a small gall-stone may obstruct the papilla, and if the Ampulla of Vater be very large, may convert the common bile duct and the duct of Wirsung into one canal, thus predisposing to acute pancreatitis.



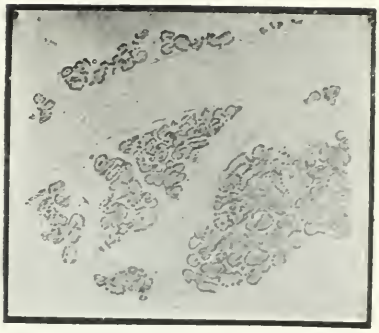
VII. Diagram to show a method of termination of the ducts which would not predispose to pancreatitis.

VIII. Photograph of specimen from the Hunterian Museum, R.C.S., showing the separate lobules of the pancreas with each duct opening into the duct of Wirsung.

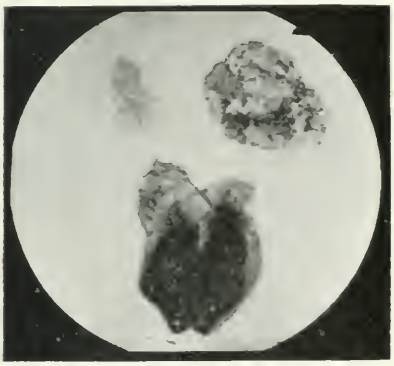
IX. Skiagram of Pancreas after injecting the ducts with Mercury.

X. Diagram to show the variations in the ducts of Wirsung and Santorini. (After Opie.)

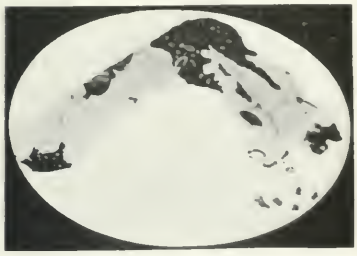
XI. Photograph of specimen showing the result of Pancreo-lithic catarrh, the Duct of Wirsung being converted into a rigid channel, owing to the deposit of lime salts. The orifice of Wirsung's duct is occluded by the same deposit, the duct is dilated and the gland atrophied.



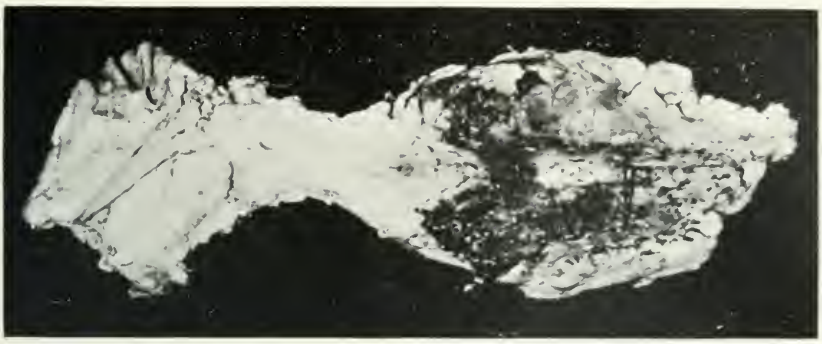
XII. Hæmorrhage into pancreas showing how the blood infiltrates and breaks up the gland tissue, setting free the ferments.



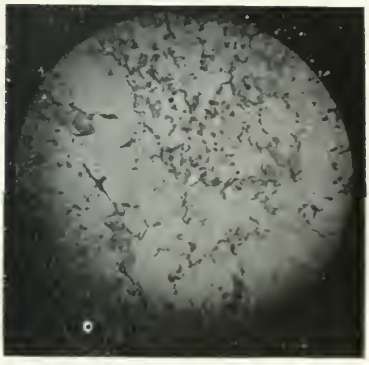
XIII. Specimen from the Leeds Museum showing hæmorrhage in the Pancreas producing the ultra acute form of Hæmorrhagic Pancreatitis.



XIV. Acute Hæmorrhagic Pancreatitis.

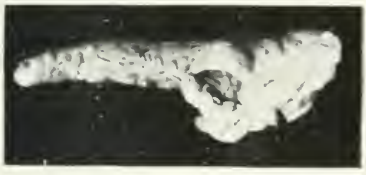


XV. Acute Hæmorrhagic Pancreatitis in which inflammation precedes the Hæmorrhage.

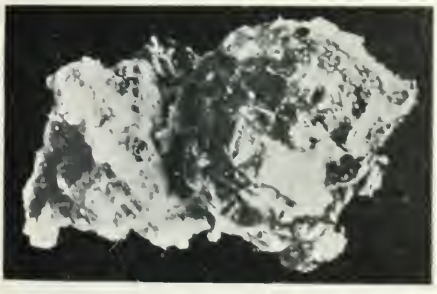


XVIII. Microscopic Section of Necrosed Pancreas.

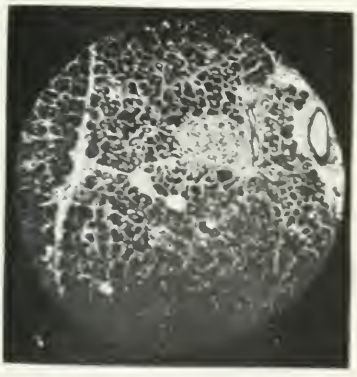
XVI. Acute Hæmorragic Pancreatitis.



XIX. Abscess of the Pancreas.



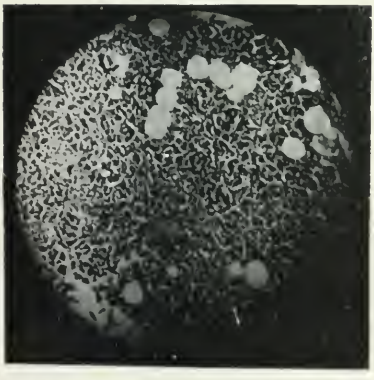
XVII. Slough of Pancreas removed at operation. Recovery.



XX. Normal Pancreas. (Shown for purposes of comparison.)

XXI. Catarrh of the Pancreatic Ducts and Incipient Interstitial Pancreatitis. A thrombosed vessel is seen near the centre of the field.

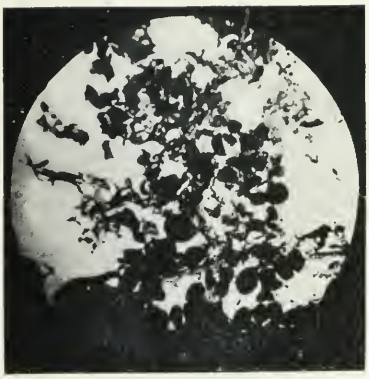
XXII. Interstitial Pancreatitis.



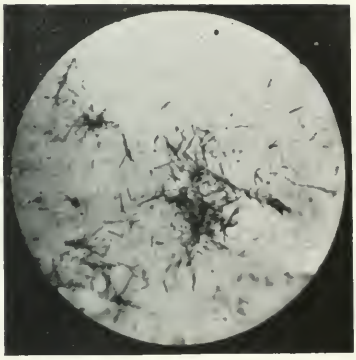
XXIII. Interacinar Pancreatitis ending in Diabetes.

XXIV. Cirrhosis of Pancreas.

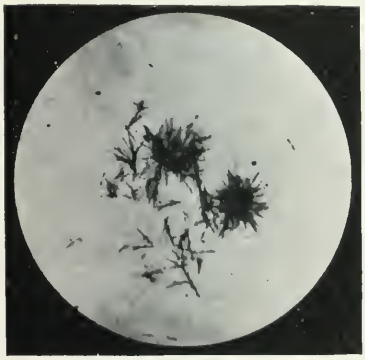
XXV. Fat Necrosis. "Transverse colon raised to show region of Pancreas."



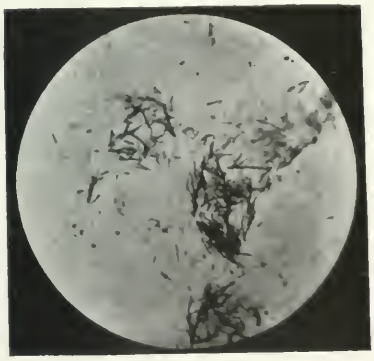
XXVI. Fat Necrosis from case of Acute Pancreatitis.



XXVIII. Crystals from a case of Chronic Interstitial Pancreatitis obtained by Cammidge's reaction.



XXVII. Crystals from a case of Catarrhal or slight Interstitial Pancreatitis obtained by Cammidge's reaction.



XXIX. Crystals from a case of cancer of Pancreas obtained by Cammidge's reaction.

detained in it, a catarrhal pancreatitis may supervene, as in the following case:—

A patient, aged 38, after being subject to indigestion for years had biliary colic in July, 1899, and passed gall stones, which were found in the motions. Subsequently the attacks of pain were frequent and severe, necessitating the use of morphia. They were usually accompanied by icterus, which, though slight, probably never quite disappeared. When I saw him in November, 1903, he had lost flesh, and was prevented from carrying on his professional duties. The metabolic and digestive signs of pancreatic catarrh were well marked. At the operation on November 23rd, 1903, no gall stones were found, though the gall bladder was thickened and adherent to contiguous organs. The pancreas was firmer than usual, though not very much swollen. Cholecystotomy led to recovery, though the drainage of the bile ducts had to be continued for three months. The patient is now well.

In this case the pancreatic catarrh had evidently been set up by the passage of gall stones through the common duct. The pancreatitis had, however, persisted, and was not only keeping up painful symptoms, but leading to obstruction of the bile ducts and to interference with nutrition. Now this case would formerly have been called catarrhal jaundice, whereas it was really due to catarrhal pancreatitis, as proved by the digestive and metabolic signs, and later by operation.

I could relate other instances, but this case will suffice to show that pancreatic catarrh may be produced by a passing gall stone, and persist after the cause has disappeared, and that drainage of the bile ducts is followed by cure.

If, after some time, the stone passes, the pancreatic catarrh may subside and leave no trace, or the swelling of the pancreas may persist, become true interstitial pancreatitis, and for a long time keep up pressure on the common bile duct, leading to a persistance of the jaundice, though there is no concretion left to cause obstruction nor any evidence of disease of the liver beyond the jaundice due to mechanical obstruction. Thus may be explained some of the cases of very chronic jaundice with so-called chronic biliary catarrh, a number of which cases I have operated on.

While one would not say that there is no such disease as chronic catarrhal jaundice, I suspect that many cases so designated are really instances of chronic interstitial pancreatitis, in which the common bile duct is compressed by the swollen pancreas. The following case is a good example:—

Mr. H.—, aged 26, had had jaundice since the age of seventeen, it having supervened upon a severe attack of what appeared to be biliary

colic, of which he had had several seizures since the age of fourteen. For two or three years he had had severe ague-like attacks, and during that time he lost very seriously in weight and strength; but during the past two years there had been no rigors, and he had also been free from the severe paroxysms of pain, though he had had slighter seizures, after all of which the jaundice became more intense. The patient was then only weighing 9 stones, and all the bile was apparently passing into the urine and none by the bowels. There was some swelling in the region of the pancreas, besides slight enlargement of the liver and a very decided enlargement of the spleen. Fine pancreatic crystals were found in the urine.

Cholecystotomy was performed on January 31st, 1901, when the gall bladder was found contracted and adherent, and the head of the pancreas enlarged and very hard, but no gall stones were present. For a few days the jaundice was deeper; it then became gradually less until it almost disappeared. In ten days the stools became bile-stained, and had since retained their colour. He returned home on April 16th, having gained nearly half a stone in weight. October, 1901.—After the previous operation the patient was well for some months, except for slight jaundice. Recently there had been a little discharge of bile from the fistula, which he wished to have cured on account of the inconvenience. Cholecystenterostomy was performed on October 3rd, 1901; the sinus was dissected out and the fundus of the gall bladder connected to the transverse colon.

The patient made a good recovery from the operation, and left looking much better. When heard of later he was following his occupation.

If the gall stone causing obstruction be removed by operation from the common duct, and drainage of the infected bile ducts be effected before the catarrhal has passed into the interstitial form of pancreatitis, a complete cure may be expected, as in the following cases:—

1. The patient, a lady, aged thirty-four, had had symptoms of gall stones for four years, and had been under treatment for ulcer of the stomach, but there had been no haematemesis. Four months previously jaundice had come on after an attack of pain, since which time the attacks had been frequent, and were always followed by an increase of the jaundice and by rigors and fever. On one occasion the gall bladder was distended; when seen there was a slight tinge of jaundice. She had lost three stones in weight. There was an absence of enlargement of the liver or gall bladder, but marked tenderness over the gall bladder was elicited. Pancreatic crystals were found in the urine, and digestive symptoms were present.

At the operation on April 23rd, 1903, one large calculus was removed

from the cystic duct and some smaller ones from the common duct by choledochotomy through separate incisions in the two ducts. The common duct was sutured and the cystic duct drained. The pancreas was found to be enlarged and inflamed. The patient made a good recovery, and is now well.

Were it necessary, I could give a good many examples, but another will perhaps suffice.

2. The patient, a lady, aged 59, began to suffer from abdominal pain, followed by jaundice and vomiting, 26 years ago, and she had been subject to attacks at longer or shorter intervals ever since. Fifteen years ago she was in bed for three months with constant pain, but never had rigors. A fortnight ago she had a severe attack of pain, followed by jaundice, which persisted. She had lost four stones in weight. There was no enlargement of the liver or gall bladder, but some dilatation of the stomach. Pancreatic crystals were found in the urine. At the operation on March 10th, 1903, a small gall bladder was found containing two gall stones, which were removed and the gall bladder drained. The common and hepatic ducts contained many stones, which were removed through an incision in the common duct. The pancreas was slightly swollen. The patient made a good recovery and remains well.

The explanation of the pancreatitis in these two cases was manifestly the obstruction of the pancreatic duct, with infection of the secretion, but the complete recovery after operation showed that the inflammation was probably only catarrhal and not advanced interstitial trouble.

If the gall stone obstructs the common duct for long, what was at first a simple catarrhal pancreatitis may assume a truly interstitial form, and unless drainage of the bile ducts is continued for some time or permanent drainage in the shape of cholecystenterostomy is established, relapse will speedily occur.

The following case is an example:—Mrs. W.—, aged 57, had had two operations previously in Scotland. On the occasion of the first operation, in September, 1902, a number of gall stones were removed from the gall bladder, which was drained for a few days, but after the wound had healed the attacks had been repeated as before. A second operation was undertaken by the same surgeon without finding anything definite After the wound had healed and the temporary drainage had ceased, the attacks again returned, and the subsequent history up to the time of my seeing her was that she had almost daily attacks of pain, followed by slight jaundice, and on five or six occasions, usually at intervals of a month, she had had violent seizures, necessitating the use of morphia. About five weeks ago the pain was so violent as to cause her to faint.

and just before coming to London another violent seizure, accompanied by collapse, occurred. A rigor, with high temperature, 104° or 105°, had followed each attack, the temperature between the seizures rising nightly to 101°F. or 102°F. She was rapidly losing flesh and strength. An examination of the urine by Dr. Cammidge showed no albumin or sugar, but well-marked pancreatic crystals, which dissolved in from one to one and a half minutes, rendering, along with other signs, the diagnosis of chronic pancreatitis certain. At the operation on November 20th, 1903, the adhesions were found to be most extensive. There was well-marked enlargement and hardness of the pancreas along its whole length, but it was not nodular. The common duct was carefully examined, but found to be free from concretions, and on opening the gall bladder a probe was passed through it and the cystic and common ducts into the duodenum. While the probe was in position, the pancreas was manipulated and found to compress the duct, thus accounting for the obstruction. Cholecystenterostomy was therefore performed, the union being effected to the colon by means of a decalcified bone bobbin. At the time of operation the gall bladder was separated from its fissure in the liver, in order to make it reach the bowel without tension. For a few days after operation, bile was discharged from the torn liver surface in free quantities, but there was no leakage from the newly joined viscera. As the bile obtained a free passage into the bowel, it gradually ceased being discharged from the liver, and the tube was able to be left out at the end of ten days. The wound healed by first intention, and the patient was up at the end of three weeks. She was then able to take and digest her food, and has since been quite free from her old attacks. If the interstitial pancreatitis has persisted for some length of time, it is possible that recovery may be incomplete, and although the jaundice may disappear and the digestive symptoms may be alleviated, the metabolic signs found in the urine many months, or even years, subsequently show that the recovery is only partial.

The following are examples:—Mr. D.—, aged 45, had had painful epigastric attacks for twelve months, with vomiting but no jaundice. There had been deep jaundice since January 1st, with ague-like attacks, and the patient had lost 2½ stones in weight. Cholecystotomy was performed on March 29th, 1898. Thickened duct felt, together with swelling of the pancreas, thought to be cancer of the head of the pancreas and common bile duct. Drainage of the gall bladder for ten days.

The patient made a complete recovery, and in August was apparently quite well, having gained a stone in weight. He was in good health in 1901. Though apparently well in January, 1904, an examination of

the urine gave the pancreatic reaction and showed that the original damage to the pancreas had not been completely repaired.

Mrs. D.—, aged 46, had had spasms for years. Acute seizure in July and three times since. Since July pain and sickness every two weeks. No tumour felt at any time; jaundiced occasionally after an attack of pain; lost one stone in weight. She had never vomited blood and never had melaena. There was tenderness over the gall bladder, but no tumour. Slight enlargement of the head of the pancreas. Cholecystotomy was performed on December 11th, 1899. Empyema of the gall bladder. Many stones removed from the gall bladder and cystic duct. Adhesions broken down. Nodular condition of the head of the pancreas found. The patient made a good recovery, and was well in 1904, though an examination of the urine showed the pancreatic reaction, and proved that the metabolic functions of the pancreas were still not normal.

In some cases where operation has been delayed or drainage of the bile ducts not performed or not long enough continued, the original interstitial pancreatitis may pass on into the interacinar variety, in which the Islands of Langerhans become involved and glycosuria ensues, as in the two following cases:—Mrs. C.—, aged 51, who was suffering from persistent jaundice, with periodical pains and ague-like seizures that had extended over a long period, was operated on in July, 1895, when several gall stones were removed and others crushed in the common duct. A tumour of the pancreas was felt, which it was thought at the time might be malignant. The gall bladder was therefore drained into the duodenum by a cholecystenterostomy. The patient completely recovered, and has remained well since the operation over nine years ago, but examination of the urine recently by Dr. Cummidge showed there to be an abundance of dextrose, but no acetone or di-acetic acid. Pancreatic crystals were obtained by the "A" reaction, which dissolved in three-quarters to one minute, but none could beisolated by the "B" method. This showed that although the patient has been relieved by the operation, and has apparently enjoyed good health, yet that she is living with a damaged pancreas and consequent glycosuria.

Mr. D.—, aged 42, had an attack of pain in the right hypochondrium ten years ago, but no jaundice. He had been free from attacks up to six weeks ago, when he had a severe attack of pain in the right hypochondrium radiating to the back and shoulders, accompanied by rigors and vomiting and followed by jaundice. The jaundice had persisted up to the present; no swelling to be felt. An exploratory operation was performed on October 27th, 1898, when a mass, thought to be growth in the head of the pancreas, was discovered. The patient made

a good recovery, with a great relief to the jaundice. I suspect the enlargement of the head of the pancreas was chronic pancreatitis, as it was too soft for scirrhus. I very freely manipulated it to feel if there was a gall stone in the termination of the common bile duct, and this may have dislodged an obstruction, leading to the relief of the jaundice.

A specimen of his urine was obtained in 1904, and although he was reported to be quite well, this was found to give crystals by the "A" reaction, which dissolved in half a minute, and to contain sugar in fair quantity.

This, along with other cases that I know of, leads me to think that it is unwise not to thoroughly drain the bile ducts, and I consider that drainage ought to be continued until the bile becomes free from organisms and its normal route is free from obstruction.

In certain cases, doubtless, recovery occurs without operation, and I have notes of one case where a gentleman of advanced age had deep jaundice associated with glycosuria, and with well-marked pancreatic reaction in the urine, pointing to the case being one of pancreatic diabetes. Under general treatment, combined with massage, he regained his health, and is now said to be quite well. In this case it is quite possible that the massage may have dislodged a concretion which was blocking the common bile duct and the pancreatic duct, but as no search was made in the faeces, this cannot be proved. As the patient lives abroad, we have not been able to test the urine, which, I suspect, will still contain glucose.

This case raises the question whether operation ought to be declined because of the presence of a small amount of sugar in the urine. In future, should the patient's condition be fair, I shall feel inclined to recommend operation in order to remove the obstruction, and by drainage to arrest the pathological process going on in the pancreas.

Suppurative Catarrh.

It is well known that in some cases of obstruction of the common bile duct by gall stones, the infective cholangitis may pass on into suppurative cholangitis, an extremely serious and frequently fatal disease; but until I reported my cases in the Hunterian lectures, I believe it had never been suggested that the same condition may occur in the pancreatic ducts. The termination probably depends both on the vital condition of the individual and on the form of the infection, for in one of my cases streptococci were found in the pus, whereas usually the organism is the Bacillus Coli.

The following cases exemplify three different types of suppurative catarrh, which, it will be seen, is an extremely serious, though not

necessarily a hopeless disease if treated early. If the suppurative catarrh be diffuse and involve the ducts throughout the liver and pancreas, the associated septicaemia is very serious, as the following case, seen with Dr. Hector Mackenzie, proves:—

Mr. W.—, aged 65 years, seen on January 4th, 1904. He had had attacks of gall stones seven years before and two seizures during the last two years, both of which were followed by jaundice. His present illness started on November 23rd with severe pain, followed by jaundice. On December 20th a very severe attack of colic was followed by more intense jaundice and enlargement of the liver with irregular temperature. The patient had had albuminuria for seven or eight years. When I saw him there was tenderness above and to the right of the umbilicus, and he had severe pain. A specimen of the urine was examined, and found to give a marked pancreatic reaction (pointing to acute inflammation), and to contain calcium oxalate crystals. On opening the abdomen on January 7th, firm adhesions were encountered, and on detaching the omentum, phlegmonous cholecystitis was discovered, with gangrene of the fundus of the gall bladder; pus escaped freely, but the peritoneal cavity was saved from being soiled by means of sponge packing. The common duct was enormously dilated and embraced by the swollen pancreas, but no gall stones could be felt. On opening the common duct a large quantity of pus and bile escaped. By means of the scoop passed into the common duct and the fingers passed behind the pancreas a number of gall stones were extracted, but a hardness could be felt at the papilla which could not be removed. On laying this open after incising the duodenum, a gall stone was removed from the ampulla of Vater, and pus was immediately seen to flow from the duct of Wirsung. The duodenum was then closed, the gangrenous upper part of the gall bladder was removed and the common duct and gall bladder were drained. The patient bore the operation well, and from that time onward had no more fever, but for the fortnight during which he lived his temperature was persistently subnormal. He had no peritoneal symptoms, and the bowels were moved freely from the second day onward. Calcium chloride had been given before operation, and at the operation he lost no blood. None was given subsequently to operation, as the rectum was intolerant of injections, and on the eighth day there was rather free oozing of blood from the drainage track, which had to be treated by gauze packing, after which the calcium chloride was resumed, and no more bleeding occurred. On the eleventh day the patient became somnolent, and declined to take food. From this time he got gradually weaker, and died comatose on the fourteenth

day in a condition almost resembling that associated with acute atrophy of the liver.

If the suppurative catarrh takes on a very acute form, the development of abscesses in the liver and pancreas may occur, and the condition becomes one of pyaemia, when the chance of recovery will be very remote, as in the following case:—

The patient, a lady, aged 65 years, seen with Sir William Broadbent and Dr. Bousfield, was suffering from deep jaundice, suppurative cholangitis, pancreatitis and parotitis of pyaemic origin; rigors with a temperature of 105° occurring daily or even twice a day, the acute symptoms having come on within a fortnight, though there had been a history of gall stones for years. The common and hepatic ducts were filled with gall stones, which were removed through an incision in the common duct, and a large quantity of extremely offensive pus and bile were evacuated. At the same time the right parotid gland (the seat of inflammation) was incised. The bile was examined bacteriologically, and found to contain the bacillus coli in large numbers; next in numbers were streptococci and another rather fine bacillus, which appeared to grow anaerobically only, and there was a fine spore-bearing organism, probably the bacillus coli putrefacies. The urine gave a well-marked pancreatic reaction. The patient, who had also heart disease and albuminuria, appeared to be doing well for 24 hours, when she died suddenly, apparently from cardiac thrombosis.

If the suppurative catarrh assumes a subacute form, it may end in a simple pancreatic abscess, which can be successfully evacuated, as in the following cases:—

Mrs. P.—, aged 61, gave the history of having been subject to biliary colic for three or four years, though there had been no jaundice till two and a half years ago, since which time the attacks of pain had always been accompanied by rigors and by deepening of the jaundice. Within a short time of my seeing her, the symptoms had become aggravated, and the loss of flesh had become extreme. The patient was so ill that the question of cancer of the pancreas was raised, but the pancreatic reaction in the urine definitely pointed to inflammation and not to growth. At the operation I found the pancreatic portion of the common duct packed with large gall stones, and the head of the pancreas was markedly swollen. On passing the scoop through the opening in the common duct from the pancreatic portion of the duct, a stone the size of a cherry was extracted, it being covered with offensive pus. This had apparently lodged in a cavity in the head of the pancreas. A profuse discharge of bile and offensive pancreatic fluid with pus con-

tinued to pass for a week, after which the discharge became gradually less. She made a good recovery, and remains well a year later. In general subacute pancreatitis, starting as suppurative catarrh with the formation of a localized abscess, the pancreas may be so damaged that after the abscess has been cured by drainage, the extensive interstitial pancreatitis may ultimately lead to the death of the patient at a longer or shorter interval, as in the following cases:—

Mr. H.—, aged 40, had suffered from continuous fever, with exacerbations associated with rigors, that recurred almost daily. He gave the history of failing health for nine months, and of having gall stone attacks much longer, but the acute symptoms associated with jaundice had only been present for a fortnight before I saw him. The pancreatic reaction was found in the urine. At the operation on October 11th, 1900, he was far too ill to bear a prolonged search, and as the adhesions were very firm, I felt it desirable only to drain the bile ducts through the gall bladder, though a marked swelling of the pancreas made it appear probable that an abscess might be present. A large quantity of muco-pus drained from the gall bladder and a number of gall stones were removed. The abscess of the pancreas discharged through the drainage tube, after which the pancreatic swelling subsided. The patient made a slow though steady recovery, and returned home early in December. Though he was able to get out and to take food, he never fully regained his strength, and died in February of the following year. At the necropsy the pancreas was found to be much enlarged and to be the seat of interstitial pancreatitis. The cavity where the abscess had been was occupied by a little pulpy material, but no further collection of pus was found, nor were any gall stones discovered in the bile ducts. A microscopic examination of the pancreas showed advanced interstitial pancreatitis.

Cirrhosis or Atrophy of Pancreas.

If the infective catarrhal condition persists and does not assume the more dangerous suppurative form, or even if simple obstruction of the pancreatic duct persists from any cause with only mild infection, we may have an almost analogous condition to the one occurring in cirrhosis of the liver, due to the development of fibrous tissue. This more chronic form of interstitial pancreatitis ends in cirrhosis or atrophy of the pancreas, which is probably inevitably fatal from glycosuria. I think it is possible that if it were discovered at an early stage, it might be arrested by the removal of the cause, though, when fully developed, the condition is probably not amenable to any form of treatment.

Acute Pancreatitis.

If a small gall stone happens to descend into an unusually large diverticulum of Vater and to lodge there, it will make a through channel from the common bile duct into the pancreatic duct, and so set up acute pancreatitis, the infected bile being forced direct into the pancreatic duct, as in Dr. Halsted's case, reported in Opie's work on the pancreas.

But the anatomical conditions just mentioned, though evidently potent, are certainly not necessary for the production of acute pancreatitis. Any gall stone or stones impacted in the pancreatic portion of the duct, or even filling the ampulla of Vater, may produce acute pancreatitis as in a case under the care of Dr. Fison of Salisbury (*Lancet,* 1904).

A man, aged 39, had a sharp attack of diarrhœa on March 27th, 1904, having been previously constipated. The next day, about 1½ hours after dinner, he was seized with severe epigastric pain followed by vomiting. At 5 p.m. he looked anxious and ill, and the abdomen was tense and tympanitic, but there was no jaundice. The vomiting persisted. There was tenderness over the gall bladder and to a less degree over the stomach, but no enlargement of the liver or any indication of tumour. Temperature, 98°; pulse, 110.

The next day the temperature was 97° and pulse 120, the vomiting continuing; morphia was given. On the 30th the temperature was 96·8, the pulse 125, small, weak and thready, respiration 36. The pain was easier. Urine scanty and dark. Operation on evening of the 30th, 54 hours after first attack of pain. Very extensive fat necrosis found in subcutaneous tissues and in omentum, mesentery, etc. Large quantity of brown inoffensive fluid in peritoneum. Incision made into tissues around pancreas through meso-colon. Gall bladder drained through another incision, many gall stones removed. Free drainage of abdomen. After recovery from anaesthetic, the vomiting persisted, and the pulse remained absent from the wrist up to death some hours later. At post-mortem examination a pint of bloody fluid in peritoneal cavity. Base of meso-colon filled with friable offensive material, blackish brown in colour, and here and there streaked with pus. Pancreas much swollen and weighed seventeen ounces. Hæmorrhagic infiltration in centre of body and another in tail, consistency very firm, with swelling of lobules. In the cystic duct were three gall stones, in the common duct four, and in the hepatic duct four. One gall stone ⅜ inches in length completely filled the ampulla of Vater

into which the duct of Wirsung opened one-third of an inch from the papilla. The duct of Wirsung did not contain bile.

Urine sent for examination by Dr. Cammidge showed crystals soluble in ½ minute by the "A" reaction, and a few crystals by the "B" reaction soluble in the same time.

The following is Dr. R. Salusbury Trevor's report of examination of the pancreas:—

The gland is enlarged in all its diameters, the margins being rounded off and producing as a consequence a sausage-shaped contour. In the head, the middle of the body, and the tail are chocolate-coloured areas, which are fairly sharply differentiated from the surrounding parenchyma in which the normal lobulation is visible. The duct of Wirsung is not bile-stained. The portion of common bile duct attached to the head of the gland appears to be somewhat dilated. Around the gland, as well as in it, are numerous typical foci of fat necrosis.

Microscopical Examination.

Sections have been prepared from the head, body and tail in most instances to include the chocolate coloured areas as well as apparently normal parenchyma.

General Features.

The dark coloured areas are due to necrosis of the parenchyma associated with hæmorrhage, and in the sections from the head and tail are demarcated off from the neighbouring gland acini by well-marked zones of inflammatory small-celled infiltration. In the tail section inflammatory reaction is absent, the necrosed areas merging gradually with the unaffected parenchyma. In the necrosed areas the gland parenchyma is only barely recognisable by a faint alveolar structure, all gland elements having disappeared. The whole of these areas stain badly. In the necrotic portions the smaller blood vessels are filled with more or less hyaline thrombi. Around the necrotic areas in the head and body is a deposit of old blood pigment, and the appearances rather suggest that here the lesions are of older date than those in the tail. Inflammation is most marked in sections of the head. The remaining gland parenchyma is badly preserved owing to auto-digestion, and the head appears to show a slight grade of chronic interstitial pancreatitis of the interlobular type. Throughout the sections the Islands of Langerhans are found with difficulty, and, from comparisons with other sections, their number in the tail sections at all events appears to be diminished. Two of the Islands of Langerhans found in the tail sections are very large in size. The cells, however, are rather broken

up, and into one of them hæmorrhage has occurred. Minute changes are not recognizable owing to bad preservation of the tissue. The epithelium of Wirsung's duct shows distinct signs of a catarrhal change.

Summary.

The condition is one of acute pancreatitis, with hæmorrhage and necrosis (the acute form of hæmorrhagic pancreatitis in Mayo Robson's classification).

Owing to Dr. Fison's kindness, I am able to show photographs of the extensive fat necrosis and the microscopic appearance of the damaged pancreas.

The following is a case of gangrenous pancreatitis due to gall stones, which recovered after operation.

Mr. S.—, aged 58, had for six years been subject to paroxysmal attacks of acute pain, starting in the right hypochondrium and radiating over the abdomen and through to the right scapula, the attacks being accompanied by vomiting and more or less collapse. On several occasions he had passed small gall-stones.

About ten weeks before I saw him he was seized with an attack which did not, as usual, yield to morphia. The liver became enlarged and tender; there was a great amount of flatulence and acidity and a feeling of discomfort generally. After this seizure he had ague-like attacks and jaundice of varying intensity, and from that time a tumour steadily developed in the epigastric and right hypochondriac regions. He rapidly lost flesh and strength, and when he was taken into a surgical home for operation he was so feeble and emaciated that it was questionable whether he would be strong enough to bear it. Jaundice was well-marked, and the tumour in the upper abdomen, which was tense, tender and fluctuating, was still enlarging. He had had diarrhœa six times a day for several days before admission, and the motions were bulky and pale and contained fat. The urinary pancreatic reaction was well-marked. Just before operation he vomited clear fluid, not containing bile. Operation was performed on April 5th, 1902, when a pancreatic cyst was exposed between the stomach and colon, containing four pints of straw-coloured fluid. Inside the cyst was found a mottled black slough with gray patches, 2½ to 3 inches long by 1¼ inches broad, and ½ inch thick, evidently pancreas. See plates xvii. and xviii. The gall bladder and ducts contained thirty stones, two the size of walnuts. One of these was found at the junction of the cystic and common duct, and pressing on the latter. The cyst of the pancreas and the gall bladder were drained by separate tubes with the stomach, and the first

part of the duodenum between them. On being put back to bed the patient was quiet, but vomited frequently. He made a steady recovery without any untoward symptoms, and left for home on May 2nd, 1903. On March 3rd, 1904, the patient was the picture of health, and had gained 1½ stones in weight. He told me that the gall bladder opening had closed in six weeks and the pancreatic fistula in nine weeks.

Symptomatology.

It is quite unnecessary for me to give the ordinary symptomatology of cholelithiasis or of pancreatitis in its various forms, as I have done that elsewhere, but it may reasonably be asked.—How can it be told when catarrhal or interstitial inflammation of the pancreas has supervened on cholelithiasis? So long as the concretions remain in the gall bladder or cystic duct, it is extremely unlikely that the pancreas will participate in the cholecystitis, unless the pancreatic duct has become infected at the same time as the bile ducts.

As soon as gall stones pass into the common duct, even if they are not long detained in it, a catarrhal or even a parenchymatous pancreatitis may supervene, but if the gall stone remains in the pancreatic of inter-parietal portion of the common duct, setting up infective cholangitis, a pancreatitis is almost certain to occur.

The symptoms of pancreatic catarrh passing on to interstitial pancreatitis vary according to the cause; for instance, if it be due to gall stones, there will be a history of painful attacks in the right hypochondrium and epigastrium associated with jaundice, and possibly accompanied by fever of an intermittent type often resembling ague. Tenderness at the epigastrium, with some fulness above the umbilicus, will usually be noticed. Loss of flesh soon becomes marked, and if the pancreatic symptoms predominate, the pain will pass from the epigastrium round the left side or even to the renal and scapular regions. Fat and muscle fibres may be noticed in the motions as soon as the obstruction to Wirsung's duct is complete, and the pancreatic reaction will be found in the urine. If gall stones be not the cause, there may be merely an aching or painful attacks not at all pronounced, or the symptoms may come on painlessly, associated with dyspepsia and with slight jaundice soon becoming more marked. In such cases, if the swollen pancreas tightly embraces the common bile duct, the gall bladder may dilate, and give rise to a suspicion of cancer of the pancreas, which the rapid loss of flesh will tend to confirm. In the latter stages, pale or white and bulky motions may be passed, and a hæmorrhagic tendency may be noticed. The liver is usually enlarged when the common bile

duct is tightly gripped, and in several cases I have found cirrhosis of the liver, doubtless due to the long-continued stagnation of septic bile in the ducts. I have seen well-marked enlargement of the spleen on four occasions. In one patient the fever and the enlarged spleen gave rise to a suspicion of ague, the organisms of which were said to have been found in the blood, and on several occasions the repeated rigors have led to the diagnosis of malarial fever.

In 60 per cent. bile was present in the urine. In 40 per cent. calcium oxalate crystals were found. In 4 per cent. the oxalate crystals were associated with bile. In none of my cases was glycosuria found, though in two cases it developed several years later. Opie reports having found glycosuria in one out of 22 cases. Glycosuria only occurs as a very late symptom. Death may occur from asthenia, due to long-continued jaundice, or from some intercurrent disease, predisposed to by the loss of flesh and debility.

The symptoms of pancreatitis may be conveniently classified under

1 Digestive symptoms.
2. Physical signs.
3. Metabolic symptoms.
4. Symptoms artificially produced.

Digestive symptoms.

a. Staetorrhoe or fatty stools.
b. Azotorrhoe or faulty digestion of albuminous foods.
c. Sialorrhoea.
d. Diarrhœa.
e. Dyspeptic disturbances.
f. Emaciation.
g. Nausea and vomiting.

Physical signs:

a. Presence of swelling or tumour.
b. Fever.
c. Pain and tenderness with muscular resistance.
d. Pressure on adjacent organs.
e. Hæmorrhage.
f. Jaundice.
g. Fat necrosis (evident only when the abdomen is opened).

Metabolic symptoms:

a. Glycosuria.
b. Other urinary changes.

Special symptoms obtained by artificial means:

a. Alimentary glycosuria.
b. Sahli's symptom.

I am sorry that the time at my disposal will not allow me to dwell on these symptoms individually, but as I have recently done so in my Hunterian lectures, which can be seen in the *Lancet* for March 19th and 26th, and April 2nd, 1904, I need only now refer to them collectively. I would at once say that no single symptom alone will justify the diagnosis of pancreatic disease, but with such a number of symptoms and signs as those I have related, it is a mystery to me how the idea has gained so firm a hold that pancreatic diseases are, as a rule, undiagnosable. For instance, Opie only last year wrote: "Disease of the pancreas is rarely recognized during life," which is a reproach that I hope will in future have no justification. Although in any single case we may not have all the symptoms and signs that I have mentioned, yet in no case ought we to fail to find digestive or metabolic or physical signs if disease of the pancreas be present. Different diseases of the pancreas, it will be seen, as one would expect, present very various grouping of symptoms, but in nearly every, if not in every, case since Dr. Cammidge and I have been working together at the subject we have found most valuable help from the urinary pancreatic reaction. Although we must not yet say that this sign is absolutely pathognomonic, yet it is safe to make this assertion, that if the test be skilfully carried out, it affords most valuable, positive or negative evidence, when taken with other symptoms, in not only establishing the presence or absence of some disease of the pancreas, but in assisting in the differentiation of simple from malignant disease, a most important matter when surgical treatment is in question.

For the significance of the urinary test, and for the somewhat complicated and elaborate method of carrying it out, full details will be found in the Arris and Gale lecture published in the *Lancet* for March 14th, 1904.

Treatment:

The treatment of catarrhal inflammation of the pancreas and of chronic interstitial pancreatitis will at first be by general and medical means, aiming at the cause whether that be gall stones, pancreatic calculi, duodenal catarrh, gastric ulcer, alcoholism or syphilis: but if after a fair trial of medical treatment, not too long continued, the jaundice and loss of weight continue, and the signs of failure in pancreatic digestion and metabolism are manifesting themselves, the ques-

tion of surgical treatment should be seriously considered, for the condition is one that if not relieved early will certainly lead to serious degeneration of the gland, or become dangerous to life in other ways. When operation is undertaken before the process has advanced to well-marked interstitial pancreatitis, my experience is that complete cure is effected in a very great proportion of cases, but if interstitial inflammation has become well marked and has advanced either to the interacinar form or to cirrhosis, an arrest of the process is all that can be looked for. As proof of this statement in some of my own cases, apparently well several years after operation, a pancreatic reaction can yet be obtained in the urine, while in two cases glycosuria has developed, thus showing that inflammation of the pancreas, if at all advanced, leaves abiding changes, and the sooner the morbid process is checked the less likelihood there will be of a permanently deficient metabolism.

Surgical treatment will vary according to the cause and the symptoms. Where there is evidence of obstruction, whether in the pancreatic or common bile ducts, the cause in the greater number of cases, 27 as compared with 24, will prove to be concretions, which should, if possible, be removed, and, as proved by my experience in this class of cases, the hope of cure or of great relief is very promising.

Not only is it desirable to remove the cause of obstruction, but at the same time the bile ducts should be drained either by means of cholecystotomy or cholecystenterostomy. Where no obstruction in the shape of gall stones or pancreatic calculi can be found, I would still advise drainage of the bile ducts by one of these operations. It has been argued that it is difficult to comprehend how drainage can do good in these cases; for proof of its efficiency, I would appeal to the list of examples that I have given and to the after history of the cases which I have operated upon. The drainage of the bile ducts acts, not only by removing one source or irritation in the shape of infected bile, but at the same time it relieves tension and allows the infected pancreatic secretion to escape, besides also freeing the blood from a poison which seriously damages it and the system at large. Besides the beneficial effects of drainage, in many of the cases the cause of obstruction is also removed. Whether advanced chronic interstitial pancreatitis will be completely cured by operation it is difficult to say, for in some of the severer cases a pancreatic reaction is found long after operation and after all other symptoms have cleared up, but in several cases that have been tested years after operation, the pancreatic reaction has entirely disappeared, thus apparently proving that the case is cured. Moreover, I suspect that the operation arrests the process of disorganisation, even

if it cannot alter the changes that have already occurred. Doubtless, in some the disease was a catarrhal inflammation of the pancreas, which was arrested either before interstitial inflammation had actually developed or before it had advanced too far, and probably in none of the cases had the interstitial change advanced so far as to become interacinar, or to present the advanced stage of atrophy or cirrhosis, as in none of the cases was sugar present in the urine at the time of operation, though the metabolic functions of the pancreas were impaired, as shown by the presence of the pancreatic reaction, and the digestive functions were affected as shown by the condition of the fæces.

Whenever the pancreas is involved either in catarrh or in chronic inflammation, the surgeon must be prepared to do a thorough operation for exposure of the whole length of the common duct as well as the head of the pancreas. I trust that I shall be pardoned if I give in detail the operation which I have been accustomed to perform, and which I have found both convenient and efficient.

Details of operation:

I have been able to modify the operation for exploring the head of the pancreas and the common bile duct in such a way that what was formerly a most difficult procedure, involved prolonged manipulation, special appliances, and at least two assistants, is now a comparatively simple operation, in the greater number of cases, only requiring the help of one assistant and not requiring the use of any special apparatus. By this method the time involved in the operation is reduced considerably, and where adhesions do not give unusual trouble, it is easy to complete the work in from 30 to 40 minutes, which not only means a saving of time and fatigue to the operator, but a considerable saving of shock to the patient. I always employ a firm sandbag under the back opposite to the liver, which not only pushes the spine, and with it the pancreas and common duct, forward, but acts like the Trendelenburg position in pelvic surgery by letting the viscera fall away from the field of operation. I then make a vertical incision over the middle of the right rectus, the fibres of which are separated by the finger, which I find to be the most expeditious and the most effective method of exposing the gall bladder and bile ducts, but when it is necessary to open either the common duct or the deeper part of the cystic duct, instead of prolonging the incision downwards, as was formerly done, I now carry it upwards in the interval between the ensiform cartilage and the right costal margin as high as possible, thus exposing the upper portion of the liver very freely. It will now be found that by lifting the lower

border of the liver in bulk (if needful, first drawing the organ downwards from under cover of the ribs) the whole of the gall bladder and the cystic and common ducts are brought close to the surface, and as the gall bladder is usually strong enough to bear traction, the assistant can take hold of it by fingers or forceps, and by gentle traction can keep the parts well exposed, at the same time that, by means of his left hand with a flat sponge under it, he retracts the left side of the wound and the viscera, which would otherwise fall over the common duct and impede the view. It will now be observed that instead of the gall bladder and cystic duct making a considerable angle with the common duct an almost straight passage is found from the opening in the gall bladder to the entrance of the bile duct into the duodenum, and if adhesions have been thoroughly separated, as they should always be, the surgeon has immediately under his eye the whole length of the ducts with the head of the pancreas and the duodenum. So complete is the exposure that, if needful, the peritoneum can be incised, and the common duct can be separated from the structures in the free border of the lesser omentum, but this is not necessary except where a growth has to be excised. The surgeon whose hands are both free can now with his left finger and thumb so manipulate the common duct as to render prominent any concretions which can be cut down on directly, the edges of the opening in the duct being caught by pressure forceps. The assistant can now take hold of the forceps with his left hand, as that instrument with the sponge will form a sufficient retractor, since the duct is so near the surface. When the duct is incised there is usually a free flow of bile, which, it must be remembered, is infective, but a sponge in the kidney pouch and the rapid mopping up of bile as it flows, by means of sterilized gauze pads, avoid any soiling of the surrounding parts, and, if thought necessary, the bulk of the infected bile can be drawn off by the aspirator either from the gall bladder or from the common duct above the obstruction before the incision into the duct is made. After removing all obvious concretions, the fingers are passed behind the duodenum and along the course of the hepatic ducts to feel if other gall stones are hidden there, and a gall stone scoop, the only special instrument that I use, is passed up into the primary division of the hepatic duct in the liver and quite down to the duodenal orifice of the common bile duct, and to ensure the opening into the duodenum being patent, a long probe is passed into the bowel. The incision into the bile duct is now closed by an ordinary curved round needle held in the fingers without any needle-holder, a continuous catgut suture being used for the margins of the duct proper, and a continuous

fine green catgut or spun celluloid thread being employed to close the peritoneal edges of the gut. In such cases where the pancreas is indurated and swollen from chronic pancreatitis, and is likely to exert pressure on the common duct for a time, I insert a drainage tube directly into the duct and close the opening around it by a purse string suture, the tube being fixed into the opening by a catgut stitch, which will hold for about a week, but where this is not done I usually fix a drainage tube into the fundus of the gall bladder in the same way, as this drains away all infected bile and avoids pressure on the newly sutured opening in the duct.

So easy is it to remove impacted stones after this method of exposure that I now never spend a long time in manipulating stones impacted either in the cystic or common duct, but at once incise the duct, remove the concretions, and close the opening without damaging the duct by prolonged manipulation. Although there is seldom any fear of leakage or of infection, yet, owing to the separation of extensive adhesions, there is usually some tendency to pouring out of fluid in the first 24 hours. I therefore generally insert a gauze drain through a split drainage tube, bringing it out by the side of the gall bladder drain. The wound is closed in the usual way by continuous catgut sutures, first to the peritoneum and deep rectus sheeth, next to the anterior rectus sheath, and lastly to the skin. Even in acute or subacute, as well as in chronic pancreatitis, this method is advantageous, as at the same time that the pancreas is exposed the bile ducts can be explored, and if the cause be gall stones, they can be removed. Should it be necessary to expose the under surface of the pancreas, an extension of the incision downwards gives enough room to raise the transverse colon and to get directly at the body of the pancreas through the transverse meso-colon.

To those having little experience in this operation, the modifications which I have employed may seem trivial, but to those who have experienced the difficulties of the ordinary operation I feel sure that the method which I have described, which enables the pancreas and the whole of the bile passages to be dealt with close to the surface, will be sufficiently appreciated. But the technique of the operation is not the only important part of the treatment of these serious cases, which require thought and care, not only before and at the time of, but subsequently to operation.

A careful study of the causes of mortality in operations on the common duct, associated with jaundice and pancreatitis, shows that hæmorrhage, either immediate, consecutive, or secondary cannot be

ignored as a danger, and that shock, apart from hæmorrhage, has next to claim our attention. Sepsis is no longer the bugbear that it used to be, thanks to a rigid all-round asepsis, the employment of gauze drainage, and the careful avoidance of soiling the wound by infected bile. Although there is a greater tendency to bleeding in chronic jaundice from pancreatic disease than when jaundice is due to gall stone obstruction, I think there can be no doubt that in all cholaemic conditions the blood becomes so altered that the coagulability becomes seriously diminished, and that these features demand serious attention before any operation is undertaken in cases of common duct cholelithiasis.

I now always employ chloride of calcium in the case of jaundiced patients, both before operation in 30 grain doses by the mouth, and afterwards in 60 grain doses by the rectum twice or thrice daily for several days.

I think it is important to ligature all bleeding points and not to trust simply to forcipressure, and while in non-jaundiced patients adhesions may be simply separated, in these cases I prefer to divide adhesions between ligatures where practicable. Where there is persistent oozing of blood from innumerable points, a tampon of sterilized gauze forms a useful means of haemostasis, and this may be made more efficient by employing at the same time a solution of suprarenal extract to the bleeding surfaces.

The best treatment of shock is preventive, and to that end it is desirous to lose as little blood as possible, though I do not agree with thos who assert that shock in operation is always dependent on loss of blood.

The patient is enveloped in a roughly made suit of gamgee tissue, and where he is very feeble, or the operation is likely to be prolonged, it is performed on a heated table. A large enema of normal saline solution with or without stimulant, given from 15 to 20 minutes before, and the administration of from five to ten minims of solution of strychnia, subcutaneously just before commencing anæsthesia are useful. Expedition in operating is an important factor in lessening shock, especially in abdominal surgery, for it stands to reason that prolonged manipulation and exposure of the viscera in patients so ill as are those composing the class of cases which we are now considering must generally be, will be badly borne, for it is not only the work of the surgeon but the deep anæsthesia that adds to the shock, since for the operation to be well and expeditiously performed the muscles must be thoroughly relaxed.

After the operation, a pint of saline fluid, with one ounce of brandy, is given by enema, and five minims of solution of strychnia are given subcutaneously in two hours and repeated if desirable.

Subcutaneous injections of saline fluid or intravenous infusion are only rarely required.

Statistics:

In order to ascertain the after results of the operations, letters were recently addressed to the friends or medical attendants of all the patients who had not been recently heard of. In one case, where the cause was due to pancreatic calculi, these were removed both from Wirsung's and Santorini's ducts with complete recovery, and the patient is now well.

In twenty-seven cases of catarrhal or interstitial pancreatitis, where gall stones were found obstructing the pancreatic portion of the common duct, cheledochotomy in 19, cholecystotomy in 5, and cholecystenterostomy in 3 were followed not only by immediate recovery, but, as ascertained by recent reports, the patients are now well, except one, who has since died from acute bronchitis, one who twelve months later died from cirrhosis of the liver, and one who eight and a half years subsequently to operation is apparently well, though sugar has recently been found in the urine. In twenty-four cases, where obstruction to the common bile duct was due to an inflammatory condition of the pancreas compressing the bile duct, though probably in many of the cases originally due to gall stones, yet where gall stones were not actually present at the time of operation, the bile ducts, and thus indirectly the pancreatic ducts, were drained, in 12 cases by simple cholecystotomy, and in 9 by cholescystenterostomy; in three cases adhesions were separated, and no drainage of bile ducts was performed. Of these 24 cases 22 recovered.

Two out of 51 patients died as a direct result of the operation—one a cholecystotomy undertaken in a patient reduced to the last stage of exhaustion before a surgical opinion was sought, and where at the necropsy a chirrhotic condition of the head of the pancreas was found, and a second, in which a cholecystenterostomy was undertaken in the presence of adhesions that appeared too formidable to deal with considering the poor condition of the patient, who succumbed a few hours later. In this case necropsy revealed a stone in the pancreatic portion of the common duct, which would have been discovered had the patient's condition permitted a thorough exploration. From four, the letters were returned as "Gone, no address." The remaining 16 completely re-

covered. Of three patients in whom the pancreas was found enlarged at operation, nothing beyond separation of adhesions and manipulation being done, all recovered. In one of these cases glycosuria has supervened and is still present, though the patient seems to be well. The after history of one cannot be traced. Of the third, word has been received to say she is well fourteen years after operation.

Thus I have no hesitation in advocating operation in this class of cases after general and medical means have had a fair but not too long a trial, and the results I have given will, I think, justify my conclusions. A search through the literature of the subject has revealed the facts that (apart from my own cases, 51 in number, with two deaths, or a mortality of 3·9 per cent.) there have been 62 operations for chronic pancreatitis recorded, of which 8 died, yielding a rate of mortality of 12·9 per cent. These cases have all been verified for me independently.

The subacute form of pancreatitis is more amenable to treatment than the acute, as the indications are so much more definite, and there is more time for careful consideration. Though it has usually only been attacked when an abscess has formed and is manifestly making its way to the surface, yet there is no reason why in some cases surgical treatment should not be adopted at an earlier stage, as in the acute condition morphine may be required to relieve the pain and lessen the collapse, Distension, if present, demands attention, and may have to be relieved by lavage of the stomach and turpentine enemata, or by the administration of calomel by the mouth. Calomel is also of benefit as an intestinal antiseptic, for which purpose it may be given in small repeated doses, followed by a saline aperient. As soon as the constipation is relieved, diarrhœa is apt to supervene, when salol and bismuth, with small doses of opium, may be given. If surgical treatment is decided on, an incision through the upper part of the right rectus will not only be useful for exploring the bile passages and removing any concretions, but will enable the operator to palpate the pancreas and to locate any incipient collection of pus, which, if practicable, should then be evacuated by a posterior incision in the left or right costo-vertebral angle. If the posterior incision be thought impracticable, the collection of pus may be removed by aspiration, and the cavity opened and packed with gauze, which may be brought forwards through a large rubber tube; which procedure will, in the course of from 24 to 48 hours, establish a track isolated from the general peritoneal cavity. In abscess of the pancreas, which usually assumes the form of sub-acute pancreatitis , and which we must distinguish from the acute suppurative pancreatitis where the pus is diffused through the gland, or where the

abscesses are small and multiple, the suppurating process is limited by a pouring out of lymph, so that should the patient survive the initial more acute stage and discovery of the pus-containing cavity be made, the condition is one decidedly amenable to treatment by drainage. The anatomical relations will readily explain the course along which the pus burrows should it burst through its lymph barriers—for instance, in one case I was able to evacuate an abscess from the right loin in a young man, aged 24 years, that had been mistaken for a perirenal abscess, yet the kidney was quite healthy and the grumous pus had come from the pancreas and had passed behind the peritoneum, covering the second part of the duodenum. The patient recovered completely. In another case I opened the abscess in the left iliac region that had apparently started from the body of the pancreas, and which had burrowed in the same way behind the peritoneum. The patient recovered from the operation, but developed trouble in the left side of the thorax, and died suddenly several weeks later. In one case of acute suppurative pancreatitis the abscess was subphrenic, and was evacuated by an epigastric incision to the left of the mid-line. Unfortunately the patient was too ill to bear a prolonged operation, otherwise I should have drained from the left loin, which might possibly have saved the patient. In another, where the symptoms were rather acute and the patient was extremely ill, I discovered pus between the liver and the stomach, and although drainage was apparently complete, the patient succumbed in a few days to exhaustion, due to the septic process that had been initiated before the abscess was opened. In two other cases the sequence of suppurative catarrh, I successfully drained abscesses of the pancreas through a tube in the common bile duct after removing the gall stones which had obstructed Wirsung's duct.

In one of these cases, the patient, a woman, aged 72 years, remains quite well, and in the other, a man, aged 40 years, recovered from the operation, but three months afterwards died from exhaustion, and at the necropsy the empty abscess cavity was discovered in the head of the pancreas, the rest of the gland being affected with chronic interstitial inflammation. In one of my cases, in a man, aged 35 years, a pancreatic abscess burst into the stomach, setting up acute gastritis, the condition being proved by an exploratory operation. It was treated by gastro-enterostomy to drain away the foul stomach contents. The patient is now quite well four years later. In another case, a young married woman, aged 26 years, the abscess apparently burst into the bowel, and although recovery was tardy, she ultimately got quite well without operation. The diagnosis was made from the symptoms and

by an examination of the swollen pancreas under an anasthetic and subsequently by the presence of a pancreatic reaction in the urine. It is important in these cases to see that the cause is removed, if that be possible—for instance, gall stones or pancreatic calculi—so that if recovery occurs, there may be nothing left to lead to a recurrence of the trouble.

It will thus be seen that I have had eight cases of abscess of the pancreas under my care, one of which was complicated by acute hæmorrhagic pancreatitis. Six were operated on, with recovery in five, although in one of the cases the relief was only for a few weeks and in another for a few months. In the eighth case, which was not operated on, the abscess burst into the bowel and was discharged, the diagnosis having been made by an examination of the tumour under an anæsthetic by the presence of digestive symptoms and by the discovery of the pancreatic reaction. When inflammation of the pancreas has ended in abscess, chronic interstitial pancreatitis will also probably be present, as was shown at the necropsy of one of my cases that died some months subsequently. It is possible that in some cases the interstitial change may be local, though in others it may be general, and may then lead to atrophy of the gland and to glycosuria. A search through literature reveals a considerable number of pyæmic abscesses of the pancreas, but those resulting from subacute pancreatitis are not common. Besides my own seven operations for abscess of the pancreas with two deaths, there have been seven others recorded with three deaths. Thus of 14 cases, 5 died, giving a mortality of 36·6 per cent.

Treatment of acute pancreatitis:

The pain at the onset is so acute as to necessitate the administration of morphine, and the collapse will probably demand stimulents, which, on account of the associated vomiting, may have to be given by enema. In the early stages the symptoms may be so indefinite that the indications for surgical treatment are often not clear enough to warrant operation. But as soon as acute pancreatitis is proved, as it may be by the combination of symptoms, together with the urinary test, the surgeon must not wait until the collapse has passed off, as that may be dependent on septic absorption, which can only be relieved by operation. The simulation of intestinal obstruction will probably lead to efforts to secure an evacuation of the bowels and relief to the distension. Just as in perforative or gangrenous appendicitis an early evacuation of the sceptic matter is necessary to recovery, so in this equally lethal affection an early exploration from the front either through the right rectus, for

reasons stated previously, or through the middle line above the umbilicus or from behind through the left costo-vertebral angle is indicated, in order, if possible, to relieve tension, to evacuate septic material, to secure free drainage and to arrest the hæmorrhage, which leads to disintegration and necrosis of the pancreas. The after treatment will be chiefly directed to combating shock and keeping up the strength until the materies morbi, both local and general, can be thrown off. Even if no pus be found, no harm should accrue by such an exploration, which can be made in a few minutes through a very small incision in the middle line above the umbilicus, if necessary, with the aid of cocaine. After establishing the diagnosis by the discovery of fat necrosis, a posterior incision in the left costo-vertebral angle will not only enable the diseased organ to be very freely examined and, if necessary, drained for the evacuation of pus and gangrenous material, but will also secure free drainage of the lesser peritoneal sac. If, however, the inflammatory collection or the tensely distended and inflamed gland be incised from the front, as is advisable in certain cases, gauze packing and gauze drainage may usually be relied on to prevent general infection of the peritoneum. If there are signs of obstructed common duct, the gall bladder should also be drained, and if gall stones be discovered, they should be removed, if this can be done without seriously adding to the length of the operation or imperilling life by adding to the shock, otherwise they may be left and removed on a subsequent occasion if free drainage of the bile passages can be secured. I have had seven cases of acute pancreatitis under my care, and have operated on five, three of which recovered. Of the two cases where operation was not consented to and where medical treatment alone was carried out, death occurred, in the first case, on the third day, and in the second case after a week's illness, attended in both with great pain and incessant vomiting.

I have already described a case of gangrenous pancreatitis in a man, aged 58 years, in which I was able to open a collection of fluid through the great omentum above the hepatic flexure of the colon, and to extract a slough of the pancreas, and at the same time to drain the gall bladder and remove all gall stones, recovery being ultimately complete.

In another case, in a middle-aged man run down by over work, but who was otherwise healthy, a sudden severe epigastric pain was followed by high fever, rigors, epigastric swelling, and obstruction of the common duct. Abdominal distension, chiefly of the upper part, and an ill-defined epigastric tumour pointed to the pancreas, and fat in the motions with the pancreatic reaction in the urine confirmed the diagnosis of pancreatitis.

As there had been a previous history of gall stones, the question of common duct cholelithiasis was a cause that was thought probable. Exploration revealed a considerable tumefaction of the whole length of the pancreas, but especially of the head of the gland. Omental and visceral adhesions, together with the extreme illness of the patient, rendered a careful examination impossible, and as the gall bladder was acutely inflammed and distended, cholecystotomy was performed. Within the next 24 hours nearly two pints of muco-purulent material tinged with bile escaped. No gall stones were felt. The patient recovered, and is now well.

In another case of a young married woman suffering from acute suppurative pancreatitis, the viscera were found hopelessly matted together. There was extensive fat necrosis all over the abdomen. I evacuated a subphrenic abscess containing masses of necrosed fat and dark slate-coloured pus. The patient was only temporarily relieved, and succumbed on the third day.

In this case I think I ought to have drained through the costo-spinal angle on the left side as well as from the front, but the patient was so ill that I feared to do more lest death should occur on the table.

In case of traumatic hæmorrhage pancreatitis in a man, aged 28 years, on whom I operated, drainage through the loin as well as in front was adopted, but did not save life, as at the time of operation peritonitis was already advanced.

In another case of a middle-aged medical man, the diffuse fat necrosis and adhesions of the viscera and omentum into a dense mass presented a formidable obstacle to complete exploration, but as no evidence of any collection of fluid either in the pancreas or in the lesser peritoneal sac could be obtained, and as no gall stones could be felt either in the gall bladder or bile ducts, I simply performed the peritoneal toilet and closed the abdomen, recovery following, and ending in complete restoration to health. It is worthy of note that in this case the diagnosis was confirmed before operation by the urinary pancreatic reaction.

A case was reported by Dr. Charles D. Muspratt of a woman, aged 40 years, who had been admitted to the Royal Victoria Hospital, Bournemouth, on December 3rd, 1903, in a state of collapse, and suffering from severe abdominal pain with incessant vomiting. The abdomen was opened within twenty-four hours of the onset of acute symptoms, and the omentum and intestines in the neighbourhood of the pancreas were found deeply blood-stained with numerous spots of fat necrosis. The pancreas was almost purple and extremely tense. An incision

was made into the dark gland, and very free bleeding followed, which was arrested by ligature. Gauze drainage was employed and complete recovery followed. This is apparently the first case in which direct incision of the pancreas has been adopted, and the operator is to be congratulated not only on having the strength of his convictions in treating acute hæmorrhagic pancreatitis on the lines of other phlegmonous inflammations, but on the success of such treatment.

In a case reported by Von Mikulicz in 1903, a patient under the care of Dr. C. B. Porter, of Boston, was operated on by a deep incision into the inflamed gland, with an excellent result. This is apparently the second case in which the pancreas was deliberately incised during acute inflammation with a successful result. Woolsey (Annals of Surgery, November, 1903) gives a summary of three cases of this affection successfully dealt with by laparotomy and drainage. The first two cases were operated on in the early stage—the first on the third day and the second twelve hours after the onset. The first case was a hæmorrhagic one, and showed fat necrosis; the second case showed no fat necrosis nor bloody fluid, but the latter appeared on the removal of the gauze drain two days after the operation. In the third case there was marked but temporary glycosuria.

Dr. C. G. Kempe, of Salisbury, on December 11th, 1902, excised a portion of the head of the pancreas affected with acute hæmorrhagic pancreatitis. It was done within two hours of the onset of hæmorrhage. The patient, unfortunately, died from diarrhœa fifteen days later.

The argument that the mortality will be less if the surgeon waits for the formation of a local abscess is fallacious, as it takes no consideration of the large percentage of those who die before such a favourable result is presented, and, in the second place, many patients never develop a local abscess, the process being diffuse from the onset. The high mortality of an early operation in acute cases is due to the fact that in many of these fatal instances intestinal obstruction was suspected, and the collapsed patients were subjected to a prolonged search for the seat of the supposed lesion. Of 59 reported cases of operation during the acute stage, 23 recovered—these include my own cases and those just referred to. Although this is a large mortality, it must be borne in mind that the disease is a lethal one, and usually ends in death if not treated surgically.

The lessons which one may learn from recorded cases are not to wait until the system is over-weighted with absorbed poison before operating and not to spend too long a time over the operation.

In conclusion, if we were to base our opinions on the post-mortem

records of the past, inflammatory affections of the pancreas would have to be considered among the rarest of diseases, but recent clinical observations and operative experience shows that such conclusions would be far from accurate, and I think I have been able to demonstrate, both from my own and from the experience of others, that inflammatory affections of the pancreas or its ducts are very much more common than is generally supposed. Fortunately, in showing the frequency of pancreatitis, and the very serious nature of the acute, subacute and chronic varieties of the disease, I have been able to demonstrate that we can do very much for these patients by timely surgical intervention. But I want to convince my audience that if only we can have the assistance and support of our medical colleagues, nearly all the cases forming the subject of my address to-day (that is, pancreatitis due to gall stones) may be prevented by timely interference, and that with barely 1 per cent. of risk.

We know that gall stones may exist in the gall bladder without causing any trouble and without giving notice of their presence, but as soon as they pass into the cystic duct, or as soon as they begin to produce catarrh, they fortunately give ample evidence of their presence.

Were the concretions removed in that stage, there should be no mortality, and, as can be proved both by my own personal experience in several hundreds of cases and by the experience of other operators of large experience in this line of work, the operative treatment of cholelithiasis undertaken before the onset of deep jaundice and infection of the bile and pancreatic ducts is with due care and in skilful hands almost devoid of danger.

Hence, in advising surgical treatment of gall stones at an early period, I am advocating a truly beneficial procedure, which would prevent the occurrence of many of those serious cases of pancreatitis that cause danger to life.

"OUR SEVENTY-SIXTH ANNIVERSARY."

THE ANNUAL UNIVERSITY LECTURE FOR 1904.

BY

W. PETERSON, Principal of McGill University.

Members of Convocation, Undergraduates, Ladies and Gentlemen:

The arrangement by which the Annual University Lecture is henceforth to be delivered on our Founder's Birthday marks a new departure in the internal economy of the University; and it may be expedient, by way of introduction, to set forth in a few words the reasons for the change. For several years past this lecture has been given at almost

any time of the year that happened to be convenient to the lecturer. He was usually one of the considerable number of new professors who have recently enriched the teaching staff, and, though sometimes pleading for a few months' grace, he was not at heart unwilling to avail himself of so conspicuous an opportunity of setting forth, before an audience intended to represent the whole University, the special importance and attractiveness of his particular subject. With the growing solidarity of the Faculties, and an increasing consciousness on the part of all of us that we belong to one common whole, the view has been expressed, and has found very gratifying support, that the proper way for a great University to begin its annual operations is for all its members to meet together with one accord in one place, and to signify by such meeting their acceptance of the watchword "unity amid diversity." Every year that adds itself to our history witnesses an ever growing complexity in our academic machinery. But it is easier now, perhaps, than it has sometimes been—even notwithstanding the fact that the Molson Hall has become quite inadequate to our needs—to cherish the feeling that we all are members one of another, and that nothing can happen in any section of the University that is not of interest and importance to the whole.

This being so, the suggestion was received from the Academic Board that our Founder's Birthday, which falls so fitly almost at the beginning of the session, would be the proper occasion for the holding of such an annual celebration. James McGill was born on the 6th October, 1744. It may be said that he "builded more wisely than he knew" when he made provision for the foundation of a college which—though it has reached a development surpassing, in all likelihood, his fondest dreams—is still content to bear his name. In reading recently Mr. Morley's Life of Gladstone—a work which, in view of the author's approaching visit to McGill, had for me a double interest, and which has just been characterized by Dr. Goldwin Smith as the most notable event in the publishing world since the issue of the first volumes of Macaulay's history—in reading Gladstone's life, I was much struck by the way in which, under fortunate circumstances, individuals may link the centuries together. Mr. Gladstone's father was born in 1764, and died in 1851. The great statesman himself lived to see his 88th birthday before his death in 1898. James McGill was born 20 years earlier than Mr. Gladstone's father, and, dying in 1813, he might have left a son who could have been with us down to quite recent memory. What changes have taken place within the span of two such life times! It would have been altogether impossible for our founder, when in 1813 he laid down a life full of high purpose, public spirit and honest in-

dustry, to forecast the future which we are privileged now to read like an open book. The political destiny of his adopted country must often have seemed to him full of dark and well-nigh insoluble problems. The war which raged round the proposal to found, by the aid of Government grants, a Provincial University, of which McGill College should be a component part, was only an augury of the unfortunate dualism which has since prevailed in regard to educational interests in the province of Quebec. At the time of James McGill's death, the population of Montreal was scarcely 15,000: the extent of its foreign trade may be measured by the fact that nine ships, of an aggregate of 1,589 tons, are reported as having come up from the sea in the year 1813. Our founder's heart would thrill with patriotic exultation if he could come back to earth and witness the gigantic strides which Montreal and Canada have made in all that pertains to material progress and advancement; but may we not well believe that the moment of his greatest rapture would come when he turned to look on the noble pile of buildings, reared by the munificence of others of his own race and speech, and standing on what is, architecturally, one of the finest University sites on the whole American continent. Conspicuous in the very centre of our common collegiate life, is the spot where now his honoured bones repose: *placida compostus pace quiescit.* The steadfast purpose which he had at heart has been realized increasingly with the lapse of years, and his memory will ever be cherished by a grateful and appreciative community.

Recent research in the Matriculation Register of the University of Glasgow has brought to light the fact that nearly a century and a half ago James McGill, along with his brother, Andrew (with whom he was afterwards in partnership in Montreal) entered as a student at that famous seat of learning, as you are students here to-day.* It was the custom in those days to enter young, and James McGill matriculated at an age (12) at which we should hardly welcome accessions to the college which now bears his name. But the emergence of the date, and of the fact of his connexion with Glasgow University, gives additional point to a passage in the Latin address which was forwarded by Corporation to Glasgow for the celebration of its ninth jubilee, with the acknowledgment that it was from Glasgow that Montreal had received, by the hand of James McGill, "that glowing

* The entries in the Matriculation Album of Glasgow University are as under:

1756 "Jacobus McGill filius natu maximus Jacobi mercatoris Glasguensis."

1765 "Andreas McGill filius natu quintus Jacobi mercatoris Glasguensis."

torch which is never to grow dim or to be extinguished in this land."** This sturdy son of Glasgow knew what its school and college system had done for his native land, and he was anxious to secure to all time the same advantages for the country of his adoption. It is not too much to say that the McGill bequest has proved the "real centre and rallying point" of English education throughout our province.

An important stage in the history of the McGill foundation is marked by the session on which we have just entered. We can now look back on seventy-five years of teaching work. It was in 1829 that, after some litigation on the subject of James McGill's will, the ceremony in connexion with the opening of the new college was held in Burnside House, the former residence of the founder. The institution started with a Faculty of Arts, consisting of the principal and two professors; but on the very day of the inaugural ceremony an important accession was received in the shape of a Faculty of Medicine, composed of the four professors who then formed the Montreal Medical Institute. It was mainly through this Medical Faculty, and owing to the reputation its professors had already achieved, that McGill College was able to make any progress at all during the next twenty years. What its later history was after the new charter was received in 1852, and under the long principalship of the late Sir William Dawson, it is needless here to recall. And now a new quarter-century is opening to our view. In many centres this would have been made the occasion of a great celebration, attended by distinguished representatives from other seats of learning, and by graduates from every part of the country. Thank-offerings in the shape of large additional endowments would have poured in from appreciative supporters, and some return in the shape of honorary degrees might have been made to visitors from sister universities. But though a repetition of the university dinner, last celebrated in 1896, is still within the range of possibility, the general feeling seems to be that McGill has not accomplished all she would like to do before inviting the learned world to join her in holding high festival. Those of you who may find it convenient to attend in the year 1929 will probably enjoy an opportunity of witnessing something on a scale adequate to the occasion of what will then be a centennial celebration!

* Ut enim cum Scoticis Universitatibus summa nobis fuit semper necessitudo ac familiaritas, quippe qui genere, institutis, studiis quoque academicis haud multum simus dissimiles, ita artiore quodam cognationis vinculo vobiscum consociati sumus, quod Glassuae natus est, abhinc annos amplius centum et quinquaginta, noster ille conditor Jacobus McGill, cuius memoriam grato adhuc animo et summa pietate prosequimur: qui, quamquam iniquo aequoris Atlantici spatio divsus, moribundus quoque dulces reminiscebatur Argos, et voluit in novo domicilo existere Academiam quae vestrae potissimum Universitatis referret speciem. Iuvat igitur praedicare a vobis nos per illum taedam illam lucentem accepisse, quae utinam in his terris numquam obscuretur aut evanescat.

On the fly leaf of an old book I find the following Greek verse:—

ἔργα νέων βουλαὶ δὲ μέσων εὐχαὶ δὲ γερόντων

Below it the scribe has obligingly furnished a Latin translation:—Consule vir, fac vota senex, iuvenisque labora: The meaning is that youth is the time for work, manhood for counsel, and old age for dreaming and praying. Personally, I have not yet begun to dream, or to limit myself to prayers. But as this session marks the tenth year of my residence in Montreal, it has occurred to me that it might not be considered presumptuous if I were to venture to take a forward view, and to forecast the course of the next twenty-five years in the light of the past decade. It is here that wise counsel will be needed, and prayers as well. I might have chosen as the subject of this address some topic remote from current academic questions. Like other university lecturers, I have my favourite studies, the fruits of which, so far as they can be made of general interest, might not unfitly be served up to an audience on an occasion such as this. But the principal of a modern and progressive university has to live very much in the concrete. Wherever he may go he takes his charge in thought along with him. And when he has the opportunity of addressing such an audience, and through it a wider public, he may as well try to turn it to good account, for the advancement of the common cause.

Nearly nine years ago, after but a few months' experience of conditions at McGill, I ventured to embody in a similar lecture, delivered before the University, my ideas of what we should mainly aim at in what was then the immediate future. Will you allow me first to take a backward glance, and by a kind of academic stock-taking endeavour to ascertain how far the aspirations then set forth have been realized in fact? They will probably be the best possible introduction to anything I may feel impelled to say of what is still before us as a University.

The subject of my paper was the "Unity of Learning." Even its title may recall some of the associations of former days, and lead to some congratulations among the friends of the University on the fact that things are not now as they may once have been. McGill is "more together" to-day than it used to be. If I have been able to contribute in any way to this desirable end, it has not been only because my instincts pointed in that direction, but because I did not fail to take to heart the wise words of my venerable predecessor in office, when, in his "Thirty-Eight Years of McGill"—the University lecture delivered by Sir William Dawson in 1893—he spoke as follows:—"The operations of

McGill are now so extensive and complicated that the dangers of disintegration and isolation have become greater than any others, and the Principal must always be the central bond of union of the University, because he alone can know it in all its parts and weigh the claims, needs, dangers, difficulties and opportunities of each of its constituent faculties and departments." Perhaps it was mainly with this thought in mind that I made the main burden of my own inaugural address, in 1896, an appeal for a greater degree of that recognition of the vital interdependence among all studies on which the feeling of a true University brotherhood must ever rest. Only in proportion as we sympathize with our fellow-seekers after knowledge and truth, even while cultivating for ourselves each his little corner of the fruitful field, do we realize the attitude of mind that ought to be the distinguishing mark of an academic community. There is a certain unity of purpose running through our diverse operations that ought to inspire in all of us a consciousness of common sympathies. If, on the other hand, we lose ourselves in our special preoccupations, holding as of little account all other studies and pursuits, we shall pay the penalty in a limitation of mental view that will debar us from enjoying the true communion of spirits. Some degree of specialization is of course a necessity of existence in days when it is no no longer possible for a single mind to "take all knowledge for its province." To a large extent we must endure to be practically ignorant of much that lies outside the range of our own immediate studies; but we need not be indifferent to it. A sympathetic appreciation of the spirit and aims of workers in other fields than our own is quite within the range of evry one of us—even the youngest! And it is only by cultivating this frame of mind that the individual student can make his own special pursuit a humane study, a collaboration towards universal ends, inspired with the feeling of ideality, as well as with the needed sense of the proportion of the parts to full amplitude of knowledge.

Such an attitude on the part of individuals is the best possible often on the lips of all of us—the university spirit. May I refer to two concrete manifestations of that spirit which are among the novelties of our recent history, and which have not yet attained, perhaps, their full effect and potency? Though blessed otherwise with an excellent constitution, McGill did not possess, until recent years, any organization through the medium of which the collective wisdom of its professorial staff could be brought to bear on current problems. The individual professor could make his voice heard only in his own separate Faculty or through the mouth of the delegate of

that Faculty to Corporation. And so it was open to him to take just as much interest, and no more, in questions of administration as his comparatively limited opportunities allowed of, and at the same time conveniently to disown all responsibility for any mistakes which, in his judgment, might be committed by the University acting in its corporative capacity. All this has been changed by the institution in 1898 of the Academic board, charged with the duty of "considering of such matters as pertain to the interests of the University, as a whole, and making recommendations concerning the same." I do not know of any more important step in the direction of solidarity than this. And we have not far to go in the direction of solidarity than this. And we have not far to go in seeking for an illustration of the opportunities thus afforded. Undoubtedly the greatest boon that has come during recent years to the University, as a whole, is Sir William Macdonald's gift of the McGill Union. There is not a member of the permanent staff who ought not to be interested in the affairs of this institution—whether they concern its constitution, its internal arrangements, or the regulation for its maintenance and administration. The Union is bound to play a most important part in the future in the development of student life at McGill. Well, the Academic Board provides a free outlet for the frank expression of any views or criticisms which may be entertained by any member of the teaching body on this or any other topic.*

Account has also to be taken of the collective wisdom of the undergraduates themselves. They are, of course, not so permanent an element in the constitution as their teachers: nothing but failure to pass

*Compare the following from the Report of the President of Yale University, 1903-4:—

"The growth of the spirit of co-operation between the several departments has been reflected in the increased interest and importance of the meetings of the University Council. The history of that body has been a little different from what was expected at the time of its foundation. It has less importance as a place for legislative action; it has more importance as a place for the interchange of ideas and the formation of public opinion. As far as the actual work of the government of the University is concerned, the different faculties can meet most of the problems as they arise; and whenever anything comes up where serious conflicts of interest between different faculties are involved, it usually has to go to the Corporation or to one of its committees for settlement, rather than to a body like the University Council. But this very absence of legislative power has increased the Council's usefulness as a field for the interchange of ideas. Numbering as it does on its roll some of the most influential members of the different departments, it gives to each of them the means of seeing matters of University finance or of interdepartmental co-operation approached from more sides and looked at from more standpoints than would be possible within the limits of a single faculty. The Council has a function analogous to that exercised by the English Parliament in the early days of its history—where the delegates from each part of England presented their views to men from the other parts, and were able to report back to their own constituents the judgments which they had thus been able to form concerning the interests of the commonwealth as a whole."

the statutory examinations could retain many of their number in the service of the University beyond the usual four year limit. But their views and opinion on matters of current interest are always entitled to a sympathetic and respectful hearing. The difficulty as to the expression of these views—for "mass meetings" of so large a body are not always an easy or effective or convenient method of giving utterance to permanent policy—has been eliminated by the institution of the Alma Mater Society, corresponding to the Students' Representative Councils of the Scottish Universities. This body, on which personally I rely very greatly for the possibility of keeping in touch with student feeling, is invested with just as much authority as the general mass of the undergraduates may care to give it. Whether that be large or small, there is surely a great advantage in having an accredited medium, within the limits of the constitution, through which may be expressed any well-considered opinions that may be held by our undergraduates on any topic of current interest.

There remain only the graduates. McGill is rich in the affectionate loyalty of her sons, organized as they are in the various graduate societies which flourish in all the large centres of the Dominion, and also in the United States. We see too little of them here in Montreal. Perhaps, if in connexion with our annual convocation at the close of each session, a Graduates' Day could be organized, they would have better opportunities of maintaining their local connexion, and also of offering suggestions for the advancement of McGill interests in the various districts they represent.

It is not without much gratification that I find, on referring to the Inaugural Address of nine short years ago, how much of the progress then foreshadowed has been already realized. Perhaps no more important issue was raised in that Address than the necessity for the extension and re-organization of the Faculty of Arts. If this Faculty receives the foremost place in what must be a very rapid review of our recent history, I am sure I shall have the approval of all who recognize the importance of the Arts curriculum as the essential basis of the whole University fabric. Not only have we received from three different sources the three endowed professorships to the need for which I called attention in 1896—Economics, Philosophy, Zoology—but our generous supporter, Sir William Macdonald, has greatly relieved the finances of the faculty by providing endowments also for the already existing Chairs of Botany and History. Moreover, Arts share with the sister faculty of Applied Science the gratification that another aspiration uttered nine years ago has been fulfilled in the most magnificent way

possible, viz.: that the Department of Chemistry should be provided with new laboratories of the approved modern style, and a sufficient staff to run them. Concurrently with this strengthening of its staff and equipment, the Faculty took in hand the reorganization of the academic curriculum; with the result that we may confidently assert that there is nowhere in Canada a stronger body of teachers in this department, or a more satisfactory and "up-to-date" course of study. In this reference I must not forget the organization of the Royal Victoria College, which engrossed in the earlier years much of my time and attention. That it is an important factor in the prosperity of the Faculty of Arts, which it has greatly strengthened, goes without saying. I may be allowed to recall in particular the fact that it was in the Royal Victoria College that a new branch of study, prophesied in my inaugural address, had its birth—a department destined to grow to great proportions in our future work—the Department of Music, represented now by the new Conservatorium on Sherbrooke Street. Of the significance of this new part of our educational programme there is much that I should like to say, but it may be well to reserve further comment for the opening ceremony to be held on the 14th of this month, under the illustrious auspices of His Excellency the Governor-General and the Premier of the Dominion.

The phenomenal success of the Faculty of Applied Science, which nine years ago was still a comparatively new foundation, is one of the brightest pages in our recent history. In a department which owes almost everything to a single giver, as regards both equipment and endowment, it is superfluous to enter into any detail; it should be stated, however, that the complete establishment of the Departments of Mining and Metallurgy, as well as that of Architecture, falls within the period now under review. Sir William Macdonald has his reward —if indeed he looks for any reward—in the unstinted praise which is everywhere accorded to the work of this Faculty, and most recently in the reports of the Mosely Commission. For a time it seemed as if Canada were in danger of being altogether overlooked by Mr. Mosely's Commissioners, and it is a personal satisfaction to me to recall the part I took in bringing about a visit which resulted in the admission that McGill "possesses material appliances for the development of scientific knowledge at least not inferior to any that can be found in the United States." (Report, page 164). And again: "While thoroughly equipped and doing excellent work on the literary side, McGill is particularly rich in science and applied science, and possesses in physics, chemistry, engineering and mining a staff and laboratories which are unsurpassed by those of any American university" (page

303). The commissioner who was specially charged with the duty of reporting on Canadian institutions, was particularly impressed by the proposal to open a Department of Railroad Engineering, which he characterizes as the most remarkable instance that came under his notice, in the course of his whole American tour, of the growing belief in the value of a college training. "It is significant," says Dr. Reichel, "that the most remarkable token of confidence in the value of academic work to industrial development has been furnished in connexion with McGill University. The decision of two great railway companies to establish and equip a department of railway engineering at McGill is one of immense importance to Canada. Not only will the new school enable these companies to push on their work in the North-west provinces, but it will also furnish, in the staff of officials of real scientific attainments whom it will train, a body of men who will serve as centres of industrial development of all kinds in the new districts" (page 304).

When I came to McGill the Faculty of Law had only quite recently abandoned its former status as a proprietary professional school, and taken rank as an integral part of the University. For this welcome transformation we know what we owe to our never-failing friend and supporter, Sir William Macdonald. It may be of interest to state that at Yale University a similar improvement was effected only last year. So in this respect we can say we are more than a decade ahead of Yale. The control of the University over the affairs of the Department of Law is now as complete as in the case of the other Faculties, and the change has been accomplished with the happiest results in the way of the consolidation of mutual interests. Moreover, the successful organization of the Faculty, under a new Dean, has widened the outlook of its members and friends, and should result ere long in securing some enlargement of the sphere of its operations. Till quite recently we have all felt compelled to acquiesce in the view that local conditions naturally and necessarily restrict our Law Faculty to the task of training lawyers for the Province of Quebec. The appointment of one of its best known graduates to a Professorship at Cairo was regarded at the time as a quite exceptional occurrence. In this respect the Faculty of Law has certainly stood in a somewhat different position from the other faculties—say, of Applied Science or Medicine. The young engineer or doctor who finds no room at home can always try his fortune abroad, whereas the young lawyer who has learnt the law of Quebec only cannot expect to have more than one market for his wares. That market is, of course, the Province of Quebec itself. And when we consider how large a portion of the Quebec Bar is French-Canadian, and how natural it is that all but a handful of them should get their law at

Laval, we shall not be surprised that—under existing conditions—the number of students in our Faculty of Law is not likely to receive any very large increase. It is true that a few find their way to us from British Columbia, Manitoba and the North-west Territories, where there are in the meantime no organized law schools. But on its present footing the Faculty of Law may be said, speaking broadly, to be a school of law for the lawyers and notaries of the Province of Quebec. This, of course, need not be understood as conveying the slightest disparagement or depreciation. If we confine ourselves in this department to merely provincial aims, so do three-fourths of the law schools on the American continent. We know how thoroughly our Law Faculty enjoys and deserves the confidence of the profession, which regards it as an efficient and well organized school, conferring a degree that ranks second to none. But may we not hope in any way to extend our present boundaries? Not to any great extent, I am afraid, under existing conditions. And yet it is desirable that Canada should possess a law school which shall be a Dominion and not a Provincial Institution. As we grow in nationhood, we shall need more and more trained publicists and civil servants and statesmen. Where are they to get their training? If our Law Faculty is to aid in this work, she will have to add to what she has at present a good deal that she has not. By way of making a suggestion, let me say that she will need, to begin with, a chair of English Common Law. The possession of such a chair would enable us to attract more students from the West, and would show that the ambitions of our School of Law are not limited by the boundaries of our Province.

I come now to the Faculty of Medicine. The reference made at the outset of my remarks to the inaugural ceremony held in 1829, at which the already existing School of Medicine joined hands with the infant college, will have sufficed to remind you of the fact that the history of this Faculty reaches further back almost than that of McGill itself. And in the early years of stress and struggle, when McGill College seems to have been the wrestling ground of denominational factions, it was the efficiency and prestige of the Medical Faculty that kept the College alive. Let us never forget that much of the progress of this Faculty has been due to the unselfish effort and the devoted sacrifices of many who have been at various periods associated with its teaching. Since 1896 it has seemed to have reached the high-water mark of its prosperity. It has had as many students as it could easily accommodate, and the two great hospitals with which it is so closely associated have stood forth to the world with ever-increasing efficiency as models of what such hospitals should be. Many of you will be surprised, in

these circumstances, if I here record my conviction that no department of our work requires more strengthening at the present time than the Faculty of Medicine, and that no claims for large endowments ought to take precedence of those which might be urged by the members of that faculty.

Why do I say this of a Faculty one of whose proudest boasts is that it has always been able to hold its own and to manage its own affairs without being beholden to anybody? Because the facts warrant the statement. In recent years the Faculty has been fortunate in receiving a considerable sum of money from Lord Strathcona and the members of his family, given mainly for the highly desirable and, indeed, almost indispensable purpose of extending and improving the Medical Building. Apart from this, however, and some assistance in the departments of Pathology, Physiology and Pharmacology, the Medical Faculty has in the last nine years received nothing at all from the general public, for which it does so much. If the prevailing impression is that it has no needs, or at least none that it cannot itself supply, the sooner that idea can be dissipated the better. The demands made by the various branches of medicine at the present day—always increasing with the constant advances in medical knowledge—the crying need for more specialized instruction, and for the displacement of the large lecture by the divisional or unit system, with a greater amount of detailed teaching and more personal supervision on the part of the instructor—all this combines to render the further and fuller endowment of our Medical School one of our most pressing needs, perhaps the most urgent of all. From the very earliest days of its foundation—owing to the excellent clinical instruction provided in the hospitals—our Faculty of Medicine has been a standard-bearer among the schools of the whole American Continent. We want to keep it in the van. That is the motto—agmina ducens—which its patron and friend, Lord Strathcona, has chosen for his coat-of-arms in the peerage of Great Britain. We want to have it also for the motto of our Faculty. Though Montreal is not quite so big a place as New York or Boston, or Philadelphia or Chicago, we must not stand idly by and see our great school of medicine lose the lead which it once obtained over the schools which are coming now to be so lavishly endowed and so magnificently equipped in those important centres. Nor do we wish to see our Canadian students of medicine tempted across the line to these or any other schools. That is why it is incumbent on this university, in view of existing conditions, to aim high in what it seeks to do for medicine. It is not enough to turn out each year a stated number of men, who are likely to become thoroughly sound and experienced

general practitioners. That is highly important, even essential, for a young and developing country like Canada, but it is not the whole duty of a medical school which aims at first rank. The reputation of such a school must be more than merely local. It will remain comparatively unknown in the greater world of scientific medicine, if it does not train a considerable proportion of men capable of making their mark in other schools, and of becoming leading authorities in some branch of medical work. This is only one aspect of the admitted fact that nowadays a university takes rank not as a teaching machine, but according to the measure of its achievements in the higher field of research and investigation. And so the training of the scientific physician, qualified to make additions to knowledge as well as to impart it to others, must continue to be a leading feature of our school. Here comes in the need for well-equipped laboratories, giving a thoroughly sound scientific training in medicine preparatory to clinical work. This is a costly business, and it will become even more costly than it is at present, with the larger number of classes that will result from the extension of the medical curriculum from four years to five. It is quite conceivable that this forward step, when it comes to be taken, will lose us some students. One of the disadvantages of the present situation is that we have to think too much of that not unimportant factor. About five-sixths of the gross revenue of the Medical Faculty are derived from students' fees; not much more than a paltry $8,000 is derived from interest on endowments. This is a by no means secure, far less an impregnable, position, and, in my judgment, it should be remedied at the earliest possible moment. Endowments should be sought for to provide, apart from fees, the salaries of the professors who occupy the scientific chairs in the faculty—beginning with anatomy, and including physiology, pathology, pharmacology, hygiene —and salaries large enough to make certain that these chairs shall always be filled by the very best men obtainable. Then it is not quite creditable that lecturers and assistants should be asked to work for practically nothing. How can a young physician be asked to give wholehearted service to the work of teaching for a few hundred dollars a year? And how can his chief exact from him even the routine duty required in his department, to say nothing of co-operation in research? Everybody knows that to become a first-class physiologist, or anatomist, or pathologist, or pharmacologist nowadays it is essential to devote one's whole time for many years to the one subject. Unless we can encourage our younger men to do this, where are we to look for successors to the present holders of chairs, and how are we to avoid the reproach of going abroad for them?

There is no need of the Medical Faculty—or, so far as I am aware, of any other Faculty—that cannot be supplied by money. Probably over half a million of dollars would be necessary to overtake the objects to which I have referred, and the completion of the buildings—with new dissecting rooms, library, museum, etc.—as well as an adequate fund for maintenance and equipment, would call for as much again. Do not let us be dismayed by the figures. Within this last year Harvard has been assured of no less than ten million dollars for the building and fuller equipment of her medical school, and Chicago—now that the Rush Medical College has been joined to the University—is promised as much and more. There is no department of our work that has greater claims on the good will of the public than that which centres round the art of healing. It is not more doctors that we aim at turning out, but better doctors—men who have had the best available advantages in equipping themselves for the practice of the most honourable—and onerous—of all professions. The McGill Medical Faculty has done noble work in the past, and I am confident that—as soon as it needs are properly understood—it will receive such a degree of support from an appreciative community as shall enable it to keep pace with the ever-growing demands of medical teaching and medical science.

When I say that there is no McGill want that money will not supply, I do not want to be quoted as implying that money is everything. Dollars will not create the spirit that ought to animate our work—the spirit of earnest devotion to the highest interest of the cause we serve. It is because that spirit already exists in McGill that its friends and supporters may confidently appeal for further financial aid. Gratitude for past favours need not debar us from cherishing a lively expectation of favours still to come. The present administration of the University has received some signal marks of trust and confidence. In looking back on the nine years that have passed since 1895, I cannot forget the kindness of the late Mr. John Henry Molson, who was Chairman of the Board of Governors when I came to McGill. As Chairman also of the Finance Committee, Mr. Molson had a very heavy load to carry. He knew the needs of the University in all its departments, and was greatly oppressed at times—as all finance chairmen must be—by the constant recurring difficulty of making both ends meet. Yet when he died, it was found that he had given the administration a most signal mark of confidence by bequeathing the sum of one hundred thousand dollars for the General Endowment Fund of the University. Some of the greatest gifts he made us during his life time were marked by the same spirit of self-effacing devotion to the general interest. He gave the

ground on which the Redpath Library stands, and (in 1893) he gave $60,000 for the purchase of land and for buildings and equipment for the Faculty of Medicine. If his name is not connected with either of these great donations, his memory remains none the less deep-graven in our hearts. It is on a portion of the lots he acquired on McTavish Street that Mrs. Peter Redpath's most welcome and valuable extension of the Library was erected in 1900.

Permit me now to indicate very briefly the lines on which the consolidation and extension of our work as a University should, according to my best judgment, be made to proceed.

I believe, in the first place, that if the time is not yet come it will soon be at hand when McGill ought very seriously to consider whether it will allow boys to go direct from school into any of the professional faculties without taking at least a partial course in Arts as a preliminary. In Medicine the curriculum has everything to gain by having physics, chemistry and biology eliminated, and taken in the Faculty of Arts as introductory. The best preparation for the law course is a preliminary study of such subjects as History and Political Science. As for the Faculty of Applied Science, if the needs of a developing country have been calling out for young engineers, the dignity of the engineering profession no less demands that they shall be as fully educated as possible. An utterance may be cited in this connexion which I once heard from the lips of President Eliot, of Harvard: "When all the leading Universities of the country require a degree in Arts or Science for admission to their professional schools—of law, medicine, divinity, teaching, architecture and applied science—an effective support will be given to the Bachelor's degree in Arts and Science such as has never yet been given in the United States; and the higher walks of all the professions will be filled with men who have received not only a strenuous professional training, but a broad preliminary culture." So, too, President Butler, of Columbia: "For a University to admit professional students direct from the secondary schools is to throw the weight of its influence against the spirit and ideals of college training, and to prepare for the so-called learned professions a large body of very imperfectly educated men."

This takes me back to the Faculty of Arts, in the recent reorganization of whose courses we had ever in view the aim of making an organic connexion with the several departments of professional study. One link is still wanting—the Chair of Education that is to lead up to the activity of teaching. When that has been supplied, the holder of the Chair—with the Normal School as his laboratory—will be able to

impress himself upon the whole education of the province, if not of the country at large. Meanwhile any prospective donors who may prefer to help us to strengthen and to consolidate work already undertaken will allow us to remind them that the Department of Modern Languages is utterly without endowment of any kind. We ought to have two chairs here, one of Teutonic and the other of Romance Languages and Literature. The energy which Dr. Walter devoted this year to the successful organization of a summer school of French, may be expected to draw fresh attention to the needs of this most important department. I say nothing of classics; that subject would need a lecture in itself. It is possible to obtain that "reasonable tincture of letters" for which Professor Macnaughton pleaded last year without any excessive devotion to classical study. But the friends of the classics may refer, with pardonable pride, to the "rush back to Latin" which is going on at present in the United States, and which seems to amount almost to a rediscovery in that country of what I have elsewhere called the logic of grammar. Another sign of the times is the establishment of two flourishing Classical Associations, the one in Scotland and the other in England, the members of which propose not only to give reasons for the faith that is in them, but also to question others as to theirs. Personally, I should be the last to advocate the claims of classical study if these claims necessarily involved ignorance of the world we live in and of the natural phenomena that are about and around us. Education is meant to lead us into active life, not out of it. At the same time the brilliant discoveries of natural science, which have taught us much that our grandfathers did not know, need not induce the rapid inference that what our grandfathers did not know must necessarily have been useless knowledge. If my own connexion with the classical department at McGill has resulted in any broader views of classical study—such as I pleaded for nine years ago—then in this department also we may claim that some progress has been made.

The fortunate settlement of the long-standing controversy with Ontario, on the subject of the recognition of McGill degrees for certain purposes in that province, induces the hope that we may witness in future a greater amount of reciprocity among Canadian Universities. In early days it was perhaps not altogether unnatural that our great educational institutions, separated from each other by immense distances, should have lived apart as it were, and should have been tempted to cultivate separate interests. This has not made for unity, either of methods or of feeling and sentiment. Now that we note some slight disposition to lower the provincial boundary-fences we may perhaps hope for better things. The Universities in various parts of the United States can agree to act together, when expedient, on matters

of common interest; why should not we? It is not necessary or even advisable that all our Universities should be moulded after the same pattern. They have all their own proper work to do. Each will in all probability develop on the lines that are most suited to its circumstances and its situation. There should therefore be less rivalry, less jealousy in the future—less belittling of each other and a greater effort to present a united front in what is after all a common cause. Some people make a great bugaboo of the British North America Act, which committed the interests of education to the several provinces. In those early days that was probably altogether a wise measure, and the Federal Government must often have had occasion since to congratulate itself that—so far as education is concerned—it could keep itself in a large measure outside the arena of provincial strife. But the education that was thought of mainly at the time of the framing of the Act was school education. The great subject of technical education, for example, had scarcely been heard of. This has been brought home to us in connexion with our new school of Railroad Engineering, which ought to be thoroughly national in character. There is certainly nothing provincial about its origin or its aims. Again, when last year we were forced by circumstances to abandon our Faculty of Veterinary Science, it was not without the hope that it might one day be revived on a larger scale. In view of the bearing of the teaching given in that Faculty on the greatest of all our national interests—the interests of agriculture—it is matter of great regret that we should have felt obliged to relinquish it. The whole Dominion might profit by the institution—in connexion with one of our leading Universities—of a great national school of Agriculture, or Agronomics, one branch of which, as at Cornell, would be veterinary science. I am one of those who believe that it is the duty of a University to make itself of service to the country at large by associating itself with all its leading interests. In so wide a field as that there is room for all who will co-operate—room for the Federal Government, too, if it can be induced to come in. Meanwhile we ought to cherish, in all that concerns University education, the spirit of co-operation and mutual helpfulness. The need for that in Canada was very much in my thoughts last year when I sat as your representative at an imperial University Conference which met in London. High argument was addressed to the audience by various speakers on behalf of imperial unity in education—the dissemination of a better knowledge of what is going on in our Universities throughout the length and breadth of the Empire, the cultivation of mutual interests, the furtherance of common aims, a sort of Federation of the Empire, in fact, through education. I could not help thinking, as I listened, that here in Canada we had

better begin at home. The times are not unfavourable for such a rapprochment. We must not let the Empire get ahead of the Dominion. Here in McGill we have accustomed ourselves to take wide and broad views. That is why we have special reason to rejoice in everything that tends to promote the unification of our national interests, both in act and in sentiment. There have always been some who felt a difficulty over the fact that the educational institutions of our Colonies have been manned to a large extent from the great British Universities. Now, the tide is beginning to flow the other way. Only a few months ago the Royal Society of London came to McGill to borrow Professor Rutherford for the purposes of the Bakerian Lecture. And along with the first flight of Rhodes scholars to Oxford goes our most illustrious alumnus Dr. William Osler. This process of interchange will doubtless go on increasing as the years roll on. "The result," as our friend Dr. Parkin writes in a paper which he has just forwarded to me, "The result cannot be otherwise than healthy and inspiring. Able men in the Motherland will go abroad more readily when they know that distinction won there counts at the centre. Able men born abroad in the Colonies will know that the pathway to recognition is freely open to them in whatever corner of the Empire they may happen to be. Everything of this kind counts for the unification of the nation, in work, in interest, in sentiment. It makes for continuity as well. The distinguished Canadian man of science, coming to hold up at Oxford his lamp of knowledge lighted there in the thirteenth century by Roger Bacon is a truer prophecy of the future of the Empire, we may fairly hope, than Macaulay's New Zealander contemplating the ruins of St. Paul's from a broken arch of London Bridge."

Members of Convocation, Ladies and Gentlemen,—I have made it my aim in this address to gather up the lessons of our recent past, and to estimate the educational position which we find McGill occupying after three-quarters of a century of almost uninterrupted teaching. We have much reason to rejoice together over what has already been accomplished, and also to go forward with good hope into the future. In point of solid progress we could hardly wish the record other than what it has been. McGill stands deservedly high among the learned institutions of the Dominion and of the Empire. In this respect it never stood higher than it does to-day. But it is a trite remark that learning is not everything; not all knowledge is power. Perhaps in the time to come, with the greater social advantages that are now to be at the command of the student body—with our Union, and let us hope, soon too, our Halls of Residence—the university may come to be as widely known as a school of manners, in the broad sense of the term, as it is at present for learning and solid work. You know the old motto of

William of Wykeham, who founded Winchester and New College, Oxford: "Manners makyth man." Too little attention is paid in our educational programmes to the upbuilding of character. When we think of the unspeakable importance of the years which our young men spend at college, as a preparation for their after life, our hearts must yearn to do more for them than under present conditions we are able to accomplish. Manners are formed and personality is built up in the school of life—even the student school. Honesty, purity, reverence—all the moral virtues, in fact, are just as important for the youth of a country as are learning and scholarship. "Manners makyth man." We want to have a hall mark for McGill men, by which they may be known and recognized all the world over. It lies with our students themselves to set the standard. What we wish to do is to give them all the help we can to make the most of their advantages while they are with us. College days are soon over, and they leave with the individual either the satisfaction of strenuous effort or the memory of neglected opportunities. "How truly it is in man," as Mr. Gladstone said to the students at Edinburgh, "in man, and not in his circumstances, that the secret of his destiny resides. For most of you that destiny will take its final bent towards evil or towards good, not from the information you imbibe, but from the habits of mind, thought and life that you shall acquire during your academic career. Could you, with the bodily eye, watch the moments of it as they fly, you would see them all pass by you, as the bee that has rifled the heather bears its honey through the air, charged with the promise, or it may be with the menace, of the future. In many things it is wise to believe before experience; to believe until you may know; and believe me when I tell you that the thrift of time will repay you in after life with an usury of profit beyond your most sanguine dreams, and that the waste of it will make you dwindle, alike, in intellectual and in moral stature, beneath your darkest reckonings."

EMPYEMA OF THE RIGHT SPHENOIDAL CAVITY AND POSTERIOR ETHMOIDAL CELLS, ASSOCIATED WITH COMPLETE OCCLUSION OF THE RIGHT POSTERIOR NARIS.

BY

ROBERT H. CRAIG, M.D.

Laryngologist, Western General Hospital.

Rouge was the first to observe by post-mortem examination chronic empyema of the sphenoidal cavity. The case was that of a lady, who during life had suffered from nasal speech exopthalmos, strabismus, and

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pain in the upper teeth. Before death, left-sided deafness and blindness were added to the symptoms. Post-mortem examination revealed the sphenoidal cavity full of cheesy pus.

In a paper which I published in the *New York Medical Journal*, March 24th, 1900, I endeavoured to show the intimate relationship which often exists between empyema of the accessory nasal cavities and inflammatory diseases of the base of the brain. Since that time my observations have extended along similar lines, and while it has been my privilege to observe and treat both in private and hospital practice many cases of empyema of the accessory nasal cavities, I have found the above relationship very often existing; but, in the case which I wish to report, the empyema was evidently an open one. Consequently, brain symptoms were wanting, apart from the headache and apathy exhibited by the child in her studies. The first observations of empyema of the sphenoidal cavity on the living subject were made by Schaffer, and since the report of his case, many have been recorded in the literature by such competent authorities as Hajek, Grunwald and others. The time at my disposal will not permit me to refer to a consideration of the etiology or diagnosis of sphenoidal empyema, and I shall therefore proceed at once to a report of the case.

A. B., female, aged seven and a half years, was brought to my office on July 25th, 1903, by her mother, who stated that the child was suffering from headache, deafness, discharge from the nose and inability to breathe freely through the nostrils. The aural and nasal trouble dated from a very virulent attack of scarlet-fever from which the patient suffered two and a half years previous to consulting me. The only local treatment adopted during and after the fever was a daily cleansing of the nostrils and ears by a mild antiseptic lotion. Examination revealed a fairly well-nourished girl of listless appearance. Cardiac, digestive and genito-urinary systems were normal.

Nasal examination showed a profuse purulent fœtid discharge from both nostrils. The septum was deflected to the right. Examination with a probe revealed complete occlusion of the lower posterior third of the right nostril, and, owing to its narrowness, examination of the upper half of the nostril was impossible. There was considerable pus in the left nostril, and the middle turbinal bone was enlarged. Examination of the nasao-pharynx and pharynx revealed a large postnasal growth and hypertrophied tonsils. The ears were discharging freely; both drum membranes and the ossicles were destroyed. The following day I removed the postnasal growth and the enlarged tonsils. After the removal of the adenoid growth, I explored with my finger the posterior nares, and was surprised to find that the right posterior naris was about

one-third the size of the left in all its dimensions. Following the operation, the nostrils and ears were thoroughly cleansed, and the breathing improved considerably, but in spite of daily frequent irrigations, the discharge did not diminsh perceptibly. At the end of three weeks I decided to explore the right nostril thoroughly, and the patient was again anæsthetized. The pus appeared to originate in the posterior superior half of the nostril. I endeavoured with a probe to ascertain the normal opening in the anterior wall of the sphenoid, but did not succeed, and the nostril was too narrow to permit of good illumination. The distance from the centre of the anterior sphenoidal wall from the anterior nasal spine was found to be two inches. I removed the inferior turbinal with scissors and snare in order to obtain more space, and drilled through the anterior wall of the sphenoid at its lower third. Fœtid pus flowed very freely. The opening was enlarged and the cavity thoroughly irrigated with a mild boracic acid solution. I did not think it wise to curette the cavity on account of its close proximity to vital structures, and was content to establish free drainage. I then proceeded to make a communication between the nasal cavity and postnasal space, and met with considerable difficulty, on account of the hardness of the bone and the small space to work in. I eventually succeeded, and placed a hard rubber drainage tube in the opening thus made. The hæmorrhage, which was profuse during the operation, was controlled from time to time by applications of a watery solution made from suprarenal powder. Following the operation, the nostrils were cleansed daily for a period of two weeks, and as the patient showed marked signs of improvement, the mother, much against my advice, decided to take her daughter home. She returned to Montreal two weeks later. Nasal examination then showed the opening in the postnasal space almost filled with granulations, and there was still considerable pus in the nostril. The patient was again anæsthetized, and as pus was seen coming from the region of the ethmoidal cells, I opened the posterior group, freely re-established the opening into the postnasal space, and with an Asche's forcep I fractured the septum as far back as the posterior naris, and inserted a special perforated splint.

One month following the above operation, suitable and appropriate treatment having been carried out in the interim, the nostrils and ears were almost free from pus, and there was and is at the present time a free communication between the right nostril and right postnasal space. Unfortunately, on account of the complete destruction of the ossicles, the hearing only shows a moderate degree of improvement.

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EDITED BY

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THE McGILL UNIVERSITY LECTURE AND THE MEDICAL FACULTY.

It is encouraging to hear from a layman words upon professional matters which express our own feelings. Apart from the force which they gain from apt expression, they have a force all their own in that, rendering our thoughts and aspirations, they come, as it were, from outside. Whilst admitting that it is the duty of the head of a University—be he Chancellor or Vice-Chancellor, President or Principal—to be intimately acquainted with the work and needs of every Faculty, and to be abreast of every movement which tends to raise the standard and develope the resources of each branch of educational activity under his care, we cannot but be gladdened when we find that Principal Peterson's valuation of our labours and needs is the valuation which we ourselves would give.

It is a happy idea to establish in McGill University a Founder's Day, and it was appropriate that, in so doing, Principal Peterson should seize

the opportunity to look backwards over the seventy-five years during which the University has been established, and to foreshadow future progress. And in this address he laid particular emphasis upon the Medical Faculty; the honourable part which it played in the past rendered the University possible; he dwelt upon its present high standing, its urgent needs if it is to retain that position amongst the great schools of this continent, which, through the labours of past generations and of the present, it has attained. His words were so much to the point that we gladly repeat them in their entirety:—An earlier reference to the inaugural ceremony in 1829 will, said he, "have sufficed to remind you of the fact that the history of this Society reaches further back almost than that of McGill itself. And, in the early years of stress and struggle, when McGill College seems to have been the wrestling-ground of denominational factions, it was the efficiency and prestige of the Medical Faculty that kept the college alive. Let us never forget that much of the progress of this Faculty has been due to the unselfish effort and the devoted sacrifices of many who have been at various periods associated with its teaching.

"Since 1896 it has seemed to have reached the high water mark of its prosperity. It has had as many students as it could easily accommodate, and the two great hospitals with which it is so closely associated have stood forth to the world with ever-increasing efficiency as models of what such hospitals should be . Many of you will be surprised, in these circumstances, if I here record my conviction, that no department of our work requires more strengthening at the present time than the Faculty of Medicine, and that no claims for large endowments ought to take precedence of those which might be urged by the members of this Faculty.

"Why do I say this of a faculty, one of whose proudest boasts is that it has always been able to hold its own and to manage its own affairs without being beholden to anyone? Because the facts warrant the statement. In recent years the Faculty has been fortunate in receiving sums of money from Lord Strathcona and the members of his family, given mainly for the highly desirable and, indeed, almost indispensable purpose of extending and improving the Medical Building. Apart from this, however, and some assistance in the departments of Pathology, Physiology and Pharmacology, the Medical Faculty has, in the last nine years, received nothing at all from the general public, for which it does so much. If the prevailing impression is that it has no needs, or at least none that it cannot itself supply, the sooner that idea can be dissipated the better. The demands made by the various branches of medicine at the present day—always increasing with the constant advances in medical knowledge

—the crying need for more specialized instruction, and for the displacement of the large lecture by the divisional or unit system, with a greater amount of detailed teaching and more personal supervision on the part of the instructor—all this combines to render the further and fuller endowment of our Medical School one of our most pressing needs, perhaps the most urgent of all.

"From the very earliest days of its foundation—owing to the excellent clinical instruction provided in the hospitals—our Faculty of Medicine has been a standard-bearer among the schools of the whole American continent. We want to keep it in the van. That is the motto—*Agima ducens*—which its patron and friend, Lord Strathcona, has chosen for his coat-of-arms in the peerage of Great Britain. We want to have it also for the motto of our Faculty. Though Montreal is not quite so big a place as New York or Boston, or Philadelphia or Chicago, we must not stand idly by and see our great school of medicine lose the lead which it once obtained over the schools which are coming now to be so lavishly endowed and so magnificently equipped in those important centres. Nor do we wish to see our Canadian students of medicine tempted across the line to these or any other schools. That is why it is incumbent on this University, in view of existing conditions, to aim high in what it seeks to do for medicine. It is not enough to turn out each year a stated number of men who are likely to become thoroughly sound and experienced general practitioners; that is highly important, even essential, for a young and developing country like Canada; but it is not the whole duty of a medical school which aims at first rank. The reputation of such a school must be more than merely local. It will remain comparatively unknown in the greater world of scientific medicine if it does not train a considerable proportion of men capable of making their mark in other schools and of becoming leading authorities in some branch of medical work. This is only one aspect of the admitted fact that nowadays a university takes rank, not as a teaching machine, but according to the measures of its achievements in the higher field of research and investigation. And so the training of the scientific physician, qualified to make additions to knowledge as well as to impart it to others, must continue to be a leading feature of our school.

"Here comes the need for well-equipped laboratories, giving a thoroughly sound scientific training in medicine preparatory to clinical work. This is a costly business, and it will become even more costly than it is at present with the larger number of classes that will result from the extension of the medical curriculum from four years to five. It is quite conceivable that this forward step, when it comes to be taken, will lose us some students. One of the disadvantages of the present system is

that we have to think too much of that not unimportant factor. About five-sixths of the gross revenue of the Medical Faculty are derived from students' fees; not much more than a paltry $8,000 is derived from interest on endowments. This is by no means a secure, far less an impregnable position, and, in my judgment, it should be remedied at the earliest possible moment. Endowments should be sought for to provide apart from fees the salaries of the professors who occupy the scientific chairs in the Faculty, beginning with Anatomy and including Physiology, Pharmacology, Hygiene—salaries large enough to make certain that these chairs shall always be filled by the very best men obtainable.

"Then it is not quite creditable that lecturers and assistants should be asked to work for practically nothing. How can a young physician be asked to give whole-hearted service to the work of teaching for a few hundred dollars a year? and how can his chief exact from him even the routine duty required in his department, to say nothing of co-operation in research? Everybody knows that to become a first-class physiologist or anatomist or pathologist or pharmacologist nowadays, it is essential to devote one's whole time for many years to the one subject. Unless we can encourage our younger men to do this, where are we to look for successors to the present holders of chairs, and how are we to avoid the reproach of going abroad for them? There is no need in the Medical Faculty—or, so far as I am aware, of any other Faculty—that cannot be supplied by money. Probably over half a million of dollars would be necessary to overtake the objects to which I have referred, and the completion of the buildings, with new dissecting rooms, library, museum, etc., as well as an adequate fund for maintenance and equipment, would call for as much again. Do not let us be dismayed by the figures. Within this last year Harvard has been assured of no less than ten million dollars for the building and fuller equipment of her medical school, and Chicago—now that the Rush Medical College has been joined to the University—is promised as much more.

"There is no department of our work that has greater claims on the good will of the public than that which centres around the art of healing. It is not more doctors that we aim to turn out, but better doctors—men who have had the best available advantages in equipping themselves for the practice of the most honourable and onerous of all professions. The McGill Medical Faculty has done noble work in the past, and I am confident that—as soon as its needs are properly understood—it will receive a degree of support from an appreciative community as shall enable it to keep pace with the ever-growing demands of medical teaching and medical science."

Briefly, but most powerfully, Principal Peterson has indicated the present status of the Medical Faculty and its needs, and his plea is most timely, for at this very moment it stands at the parting of the ways. So necessary to the community is it that medical practitioners be fully equipped for their work, so much is that work expanding and so expensive has a sound, thorough education become, that the fees that can be exacted from the students no longer suffice to pay for that education, and, for the good of the community, the wealthy and public spirited in other large centres on this continent have of late come forth nobly with endowments and buildings for medical schools. Those endowments, at first sight, appear to be lavish. We in Montreal cannot expect to approach the ten millions which Harvard has received, the like sum that is promised to the Chicago School, the five millions said to be given to the Cornell School in New York. Sums so great as these are not needed in McGill, for the greater part of the gift in each of these cases is to be devoted to the establishment and endowment of a university hospital and to school buildings. Happily, Montreal already possesses such hospitals and the greater part of its school buildings. But still much is required, and, unless this is obtained and is obtained in the near future, it is evident that the school must fall behind in its standing and in the good that it can accomplish.

The Principal has well indicated the direction in which aid is needed: professorial endowments, to assure that the best men are appointed and are retained; due payment of lecturers and demonstrators, who now are asked to work loyally for a mere pittance; payment adequate to assure that in each department there shall be those of the junior staff, who, devoting themselves wholly to their subject for some years, will no longer be amateurs, but will become experts and authorities, so that the Faculty will not be compelled to go abroad to select heads of departments; funds for the further development of such essential features of a good school as the medical library and the museums of anatomy and pathology. Much could be said under each of these headings. We hope in the future to treat of each in some detail. We would, in this connexion, point out that it is well worth comparing the Principal's plea with Professor Abbott's well-reasoned address, printed in our last number. Layman and professional man, it will be seen, arrive at the same results and make a like appeal.

THE NEW PHYSIOLOGY.

A revelation has been made to this Journal through the medium of a circular letter from Albert J. Atkins, M.D., Professor of Physiology in the California Medical College, President of the San Francisco County

Society of Physicians and Surgeons, and Member of the Astronomical Society of the Pacific Coast. Dr. Atkins has apprehended the force of the objections which have been made to all previous revelations that they have not been attested to the satisfaction of men of plain common sense, and accordingly he has added the names of his witnesses, a practice we could wish had been more commonly followed in times gone by. Dr. Atkins' discovery, in short, is "the electrical reaction of the life principle in the living lungs." We have no desire to usurp the chair of the scorner, nor are we blind to the excess of vivacity which induced Dr. Atkins to reveal his discovery in a type-written letter of less than a score of lines. Indeed, there is much to commend in the practice, having in mind the laborious elaboration of less important discoveries in the current scientific literature.

For conciseness and brevity and obedience to the old Egyptian commandment, "thou shalt not multiply words in speaking," this communication stands alone. The experiment rivals in simplicity Galvani's observation upon the frog's legs or Newton's upon the fall of the apple: "Tracheotomy was performed on a living sheep; two especially prepared, small, platinum electrodes were inserted through the opening into the cavity of each lung. These platinum electrodes were attached by about thirty feet of insulated copper wire to a Weston galvanometer. The instant the electrodes reached the air-chambers of the lungs, the needle of the galvanometer moved from zero point, alternately to the right and to the left, the full length of the scale, at each breath of the animal. This action proves conclusively that there is an electrical current in the living lungs; also, that the current alternates from positive to negative, with perfect rhythm, at each breath of the animal."

We do not see our way to deny the truth of this observation, that there is an electric current in the living lungs, in view of the experiments with which prehistoric physiologists used to amuse us in the fresh days of our youth. Electrodes would be placed upon the base and apex of the heart, upon the upper and lower surface of the tongue, and the galvanometer was observed to indicate certain electrical reactions. That may have been an illusion, but it seemed real enough at the time.

Nor do we feel specially commissioned by Providence to estimate the bearing of this discovery upon the "life principle." Whether the life principle have an electrical reaction or not we cannot say. Our mind has always been occupied with humbler topics; yet we feel quite sure that all active tissues exhibit an electro-negative reaction. The phenomenon has been witnessed in the brain of a moderate-sized rabbit. Persons who are interested in this fascinating subject will

recall Professor Waller's laborious experiments upon the electrical reactions which are observed in living and dying tissues. That humble experimenter utilized the eye of the codfish as a beginning, but he declared, anticipating Professor Atkins, we fancy, that a sheep's head would serve equally well, and he stumbled upon the profound discovery that "Schafkopfs" are as common in laboratories as in any other sphere of life. This may appear to be a great deal of writing about a small matter, but the incident illustrates well the hasty utterance which attends so much scientific work. The late Mr. Huxley had occasion to employ an Irish carman and charged him to drive fast. The man set off at a gallop. "Do you know where you are going"? cried Huxley. "No, yer hanner; but annyway I'm drivin fast."

Among the events of interest during the past month was the visit of Dr. Paul Courmont, of the University of Lyons, on his way from St. Louis. The interest lay in his presentation of his case for the serum-diagnosis of tuberculosis, a subject which he has made peculiarly his own. Dr. Courmont gave demonstrations of his methods before members of the profession at McGill and again at Laval, where all who had the privilege of hearing him were charmed by his lucidity of thought, his perfection of utterance and the singular attractiveness of his personality.

The enrollment of students for the session of 1904-5 at McGill University is 370 in Medicine, 297 in Arts, 370 in Applied Science and 28 in Law, making a total in all faculties of 1,065. According to the report for 1902-03, which is the last published, the students in Medicine were 435, in Arts 329, in Science 286 and in Law 40, making a total of 1,090. The decrease in the Faculty of Arts is fully explainable by the new regulations governing partial students. The increase in Science is gratifying, but the diminished numbers in Law and Medicine is a matter which is worthy of investigation. The decrease is probably temporary, and due to the raising of the standard.

The controversy between the educational authorities of Ontario and McGill is at an end. Hitherto, graduates of McGill were debarred from teaching in the high schools of Ontario unless they would pass an additional examination. According to the new regulations, Article 51 has been changed to read that "any person who obtains a degree in arts in the honour department of Mathematics, Science, Classics, English, and History, Moderns and History, or French and German, as specified in the calendar of any University in Canada," etc. McGill has agreed to alter such of the courses as at present do not conform with the Ontario regulations. The changes, however, are insignificant.

Reviews and Notices of Books.

LECTURES TO GENERAL PRACTITIONERS ON THE DISEASES OF THE STOMACH AND INTESTINES. By BOARDMAN REED, M.D. An octavo volume of 1,021 pages. Price $5.00. E. B. Treat & Co., New York.

"In this volume of lectures the attempt has been made to furnish a plain and unpretentious but practically complete clinical guide to the diagnosis and treatment of the diseases in question." With these words the author broadly outlines his work, and the attempt has been in a high degree successful. As the title indicates, the subject matter of the book is presented in the form of lectures. This mode of dealing with such a large subject in book form, while it can scarcely be considered as beyond the experimental stage, has much to commend it.

Eighty-two lectures, comprising the volume, are grouped in four parts. In Part I. the anatomical, physiological, chemical and diagnostic data are presented in three lectures. In Part II. the methods of examination are considered in twelve lectures. Part III. comprises the methods of treatment discussed in twenty-four lectures. while forty-seven lectures, making up Part IV., or more than half the book, are styled "The Gastro-Intestinal Clinic." The individual gastro-intestinal diseases are herein considered. A lecture on "Diseases of the Rectum and Anus" is contributed by Dr. Collier F. Martin, of Philadelphia. There are one hundred and twelve illustrations. "A Symtomatic Guide to Diagnosis"—lecture xv.—is considered a "unique feature," but its utility is open to question.

This work is too large to justify an attempt at a complete review, but a perusal of the greater part enables one to state that it is full of the author's experience and reflects the results of years of careful observation. His remarks on treatment are good, and may, when drugs are in such requisition as they are to-day, well be considered. "Sufficient is not known to prove beyond question that by means of appropriate diet, in connexion with rest and exercise, much more can be accomplished in many diseases of the digestive organs than is possible of accomplishment through the use of drugs or any other form of therapy alone." . . . . In this country a physician runs the risk of being considered eccentric if he does not make drug treatment his first and principal resource in the management of the digestive disorders as well as in all other diseases."

The objection to the book, if one might be raised, is that it contains too many words. The text is clear, and the illustrations are helpful. The volume may be considered as a very valuable addition to the library of both the general and special practitioner. W. F. H.

THE PRINCIPLES AND PRACTICE OF GYNÆCOLOGY FOR STUDENTS AND PRACTITIONERS. By E. C. DUDLEY, A.M., M.D., Professor of Gynæcology in the North-Western University Medical School, Chicago. Fourth Edition, revised, with 419 illustrations in colours and monochrome. Lea Brothers & Co., Philadelphia and New York.

The first edition of Professor Dudley's book appeared in 1898, and now in 1904 we have the fourth. Four editions of a medical text-book in six years amply prove its popularity and value. The dedication continues to be to the venerable Emmet, of New York, whose pupil the author formerly was. As in the earlier editions, Dudley adopts a somewhat unusual classification of subjects. Instead of grouping together all the diverse morbid affections of one special organ, he has, as far as possible, arranged them in pathological and etiological sequence. To quote further from the author's preface, "for example, infections and inflammations are brought together so that vulvo-vaginitis, metritis, salpingitis, ovaritis, peritonitis and cellulitis may be studied in the combined forms which they ordinarily assume. In like manner tumours are treated in another part, traumatisms in another and displacements in another."

The text has undergone extensive revision, and all the borrowed illustrations of previous editions have been rejected, and three hundred new ones, all reproduced from drawings specially made for the book, have been introduced. A somewhat careful examination of the work amply justifies the author's claim in the matter of illustrations. In this particular no text-book we know for the student and ordinary practitioner can compare with Dr. Dudley's.

We presume he does not challenge comparison with Kelly's monumental work. In descending to particulars, we first notice the author's remarks on the treatment of acute puerperal metritis, the management of which is of so great interest to the obstetrician and gynæcologist. There is much difference of opinion. Is it wise to curette? There are enthusiastic advocates and there are unflinching opponents. The author's teaching is commendable. It is conservative, and inclines to its restriction to exceptional cases, where, if employed, it should be so thoroughly done by a sharp curette that every vestige should be removed. But the operation is by no means free from danger. There can be no doubt that it has sometimes killed the patient. We submit that the evidence in its favour is of very doubtful value.

On the question of the more radical operations for cancer of the uterus, those by which cellular tissue and lymphatic glands are exten-

sively removed by abdominal section, possibly combined with vaginal section, the author is coldly sceptical; and when he says that (foot of page 413), "the increased traumatism, great difficulty of technique, and, above all, the time required, would probably increase the mortality of the operation enough to offset any possible advantage," we thoroughly agree with him, while commending the laudable desire manifested by the advocates of such operations to do the best we can for the sufferers from this dread disease.

Of vaginal section, anterior and posterior, the author speaks approvingly for selected cases, a position in which he is in accord with what we consider to be the best teaching.

Of vaginal hysterraphy or fixation, while he describes it, the author does not approve, and gives for reasons the generally admitted facts that unless there is a broad and firm adhesion established, it is apt to give way, and the displacement return, while if the adhesion be broad and firm and pregnancy occur, there is great danger of difficult labour. Numerous such cases have been reported, some fatal, in which Caesarean section and other obstetric operations had been done.

Concerning the operation devised by the author for antiflexion, he continues to be satisfied, while speaking modestly and temperately of it and its limitations. He quotes with evident pleasure the favourable reports of Wadsworth and Reynolds, of Boston.

The descriptions of operations are very clear, while all the more common and established ones are copiously illustrated at every step. Many gynæcological operations are difficult to describe, and cannot be shown to more than a few students at once. Hence the great value of good illustrations.

Of that most interesting but terrible and most malignant of all neoplasms, the deciduoma malignum or chorion epithelioma, the description is very brief and without illustrations, either of gross or minute appearance. We submit that the ommission is, to say the least, unfortunate.

Dr. Dudley's book is of such a high degree of excellence that there is extremely little to criticize, and of many books in the market it is one of the very best.

A Text-Book of Diseases of Women. By Charles B. Penrose, M.D., Ph.D., Surgeon to the Gynecean Hospital of Philadelphia. W. B. Saunders & Co., Philadelphia, New York and London. J. A. Carveth & Co., Toronto.

Of text-books for the enlightenment of the student and practitioner of gynæcology there is no lack. If we are to judge from numerous

editions in a short space of time, this is one of the best. We have now before us the fifth in seven years, and the book has been much improved. A cursory examination seems to justify the faith in it shown by medical teachers and students. The author's claim that he has attempted to present the best teaching of modern gynæcology untrammelled by antiquated theories or modes of treatment is well sustained. For facts of anatomy, physiology and pathology the student is referred to larger books.

We cordially approve of the first chapter on the general causes of diseases of women. That part of it which treats of improper clothing and modes of life, such as irregular hours for sleeping and eating, of neglect during early menstrual life, and of the unphysiological modern methods of the education of young girls, should be authoritatively impressed on all mothers or guardians and teachers of young girls.

One naturally examines the book to find how the author deals with the burning questions of the day in gynæcological matters. Of the relatively modern and, by some, much-lauded vaginal section for the correction of uterine displacements and the dealing with a variety of other morbid conditions of the female pelvic organs there is no mention that we can find. The same is to be said of that most fatal of all the malignant diseases of the uterus, chorion epithelioma or deciduoma malignum. These are omissions which, we think, are not to be excused, even in a text-book written especially with a view to the needs of the medical student. If briefly considered, they would not have added materially to the size of the book. With the exception of these criticisms, we have much praise for this work. Its dogmatic method of teaching is certainly the best for the student. The publishers' part is most praiseworthy. The relatively slight glazing of the paper makes the book comfortable to read, while the type and illustrations are perfectly clear.

KIRKE'S HANDBOOK OF PHYSIOLOGY. Revised by FREDERICK C. BUSCH, B.S., M.D., Professor of Physiology in the Medical Department of the University of Buffalo. Fifth American Edition. William Wood & Co., New York.

During recent years there have been two different text-books upon the Canadian market bearing the title of "Kirke's Handbook of Physiology." One of these has been published in England under the editorship of Prof. W. D. Halliburton, and claims to be the only genuine and authorized edition. The other is the one before us. On comparing the two, we find that they have many illustrations and occasional paragraphs of letter-press in common, but they differ from one another

so much that one would hardly discover for himself that they had a common origin.

Under Halliburton's editorship the handbook has made a great name for itself , and has been so much changed and, we may say, improved, that it has seemed good to the English publishers to drop the name of Kirke entirely, and it will henceforth be known as " Halliburton's Handbook of Physiology."

Professor Busch seems to have incorporated in his text many good points from former English editions, and has inserted some additional matter of his own, so that, on the whole, his text-book is a good one, but when we compare it with the authorized edition by Halliburton, we find the latter so generally superior in soundness and completeness that we cannot recommend the American in preference to the English edition.

Von Bergmann's Surgery. A System of Practical Surgery. Drs. E. von Bergmann, of Berlin, P. von Bruns, of Tübingen, and J. von Mikulicz, of Breslau. Edited by William T. Bull, M.D., Professor of Surgery in the College of Physicians and Surgeons (Columbia University), New York. Complete work now ready, in five imperial octavo volumes, containing 4,220 pages, 1,976 engravings and 102 full-page plates in colours and monochrome. Sold by subscription only. Per volume, cloth, $6.00; leather, $7.00; half morocco, $8.50, net. Volume V. just ready. 789 pages, 354 engravings, 23 plates. Lea Brothers & Co., Publishers, Philadelphia and New York.

Messrs. Lea announce that this system of surgery is now complete with the appearance of the fifth volume. As each volume appeared, it received mention in these pages, and always with respect and praise. This system is the most authoritative which has appeared in recent years, and to refresh the memory we append a summary of the contents of each volume.

Volume I.—936 pages, with 361 engravings and 18 plates—covers the following subjects: injuries and diseases of the skull and its contents; malformations, injuries and diseases of the ear; of the face (including plastic operations and the neuralgias of the head); of the salivary glands (including anomalies); of the jaw; of the nose and its adjacent tissues; of the mouth and of the pharynx.

Volume II.—820 pages, with 321 engravings and 24 plates—malformations, injuries and diseases of the neck, larynx, trachea, mammary gland, vertebral column, the thyroid gland, the thorax and its contents, the spinal cord.

Volume III.—918 pages, 595 engravings and 21 plates—Malforma-

tions, injuries and diseases of the shoulders and upper arm, elbow, forearm, wrist, hand, hip, thigh, knee, leg, ankle, foot.

Volume IV.—757 pages, 345 engravings and 16 plates—Malformations, injuries and diseases of the œsophagus, stomach and intestines; injuries and diseases of the abdominal wall, the peritoneum, the liver and biliary passages, the spleen and pancreas; hernia; laparotomy.

Volume V.—789 pages, 354 engravings and 23 plates—Malformations, injuries and diseases of the pelvis, the anus and rectum, the urethra, the penis. Abnormalities, injuries and diseases of the kidneys and ureter, the bladder and prostate, the scrotum, testicles, vas deferens and seminal vesicle.

THE THEORY AND PRACTICE OF INFANT FEEDING, with Notes on Development. By HENRY DWIGHT CHAPLIN, A.M., M.D. 2nd Edition, revised. Wm. Wood & Co., New York, 1904.

Scarcely two years ago the first edition of this work was most favourably noticed in this journal. The fact that in such a brief interval it has been found necessary to issue a second edition is proof that the opinion then expressed has been shared by many others. Certain parts have been revised and others completely rewritten in this edition. One notes the highly suggestive remarks on the place of milk in the animal economy at the end of chapter viii., which, with the accompanying illustrations, add greatly to the value of the book. Again the question of the purpose in adding alkalies to milk is gone into fully, and the author recommends that they should be used with discretion and not as a matter of routine. The recent work on the etiology of summer Diarrhœas has been embodied in this edition, so that the work has been greatly improved, and cannot fail to enhance its already excellent reputation as one of the most authoritative works on infant feeding.

TEXT-BOOK OF NERVOUS DISEASES AND PSYCHIATRY. By Charles L. Dana, A.M., M.D., Professor of Nervous Diseases, Cornell University Medical College. Sixth Edition revised and enlarged. Illustrated by 244 engravings and three plates in colours. New York. William Wood & Company. 1904.

Professor Dana's text-book of nervous diseases has reached the sixth edition, and to it has been added a section in psychiatry. In its new form the book bears the date of July 6th, 1904. This work has always been well liked by students and practitioners—and upon good grounds. It can be understood by the average reader, which is not always the case in books upon the nervous system. The author does not undertake to do too much, and yet an acquaintance with the previous editions and

rather a careful examination of this one do not disclose any important omissions. There are, according to the writer, 176 special diseases of the nervous system, and of these 65 (or 66, as appears by the enumeration) are either common or important. The latter class is treated with sufficient fulness, and always with lucidity. Treatment is not neglected.

The section on Diseases of the Mind is not large, but it is interesting. The chapter upon General Psychology reads as if it might have been written by a human being. Many writers seem to keep a tame steam engine to perform that part of their task. Professor Dana brings the reader into contact with the minds of the insane rather than with their bodies. The "Story of the Man with the Polypathic Brain" is a case in point. The illustrations are interesting also. To read the book is a work of pleasure.

Report of the Tuberculosis Commission of the State of Maryland, 1902-1904, Dr. Marshall Langton Price, Medical Officer.

The Tuberculosis Commission of the State of Maryland is composed of Dr. Wm. S. Thayer, President; Geo. Stewart Brown, Dr. W. Frank Hines, Dr. Lilian Welsh, John M. Glenn, Secretary, and Dr. Price, medical officer. The report which the Commission issues is a valuable document, and deals with every aspect of the disease. It contains a full report of the Tuberculosis Exposition which was opened in Baltimore in January last, including the addresses which were delivered upon that occasion. The records of legislation and tables of statistics are very full. The work which is being done in Maryland should serve as a model and a stimulus to other communities.

Essentials of Medical Chemistry. By Lawrence Wolfe, M.D. Sixth Edition, revised by A. Ferree Witmer, Ph.G. Saunder's Question Compends.

Medical News.

HOTEL DIEU.

During the month of September there were admitted 402 patients, 190 of whom were males. There were discharged 222, of which 102 were males. The deaths were fifteen.

A meeting of the Medical Association of Winnipeg was held on the 7th of October, at which the officers were elected. Dr. E. S. Popham was elected President; Dr. Gordon Bell, First Vice-President; Dr.

Montgomery, Second Vice-President; and Dr. J. R. Davidson, re-elected Secretary-Treasurer. The members of the council are Doctors England, McKenty, Vrooman and Beath.

Dr. Achille Chouinard died in Quebec on the 11th of October. Dr. Chouinard returned from France last spring, where he spent two years following a medical course in the hospitals. Soon after his return he was stricken with consumption, and died after three months' illness.

Dr. Albert E. Mallory, registrar of East Northumberland, died on the 4th of October in Colborne. Dr. Mallory was born at Cobourg February 1, 1849. He was educated at Albert College, Belleville, graduated in medicine at McGill University, and started practice at Warkworth, Ont. He was licensed by the Royal College of Surgeons, Edinburgh, and obtained a certificate of British registration in 1878.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

HENRY R. STORRS. "Lingual Goitre." *Annals of Surgery*. September, 1904.

The writer has collected thirty-two cases from the literature dealing with this very interesting and rare condition. His conclusions are that lingual goitre is a tumour at the base of the tongue arising from an accessory thyroid gland, which may be found in the course of the development of the thyroglossal duct. It has all the characteristics of ordinary goitre, occurs almost exclusively in women between the ages of fifteen and forty. It grows slowly, and may exist for years without causing any annoyance until some unknown cause stimulates its growth and produces symptoms. These are functional and not constitutional, and consist of trouble in swallowing, breathing and speaking, accompanied by frequent hæmorrhages. The tumour is round or ovoid, elastic and covered by a very vascular mucous membrane, and is almost never ulcerated. Dermoid cysts offer the only difficulty in differential diagnosis, but they are generally yellow, grow rapidly, pit on pressure, and have not the vascularity of goitre. Operation is the only radical cure. There are two ways of reaching the tumour, namely, through the mouth and through an incision in the suprahyoid region, the former being the better. The prognosis is good, there having

been no postoperative deaths, and in all cases the cure has been permanent.

Royal Whitman, M.D. "The Distinction between Fracture of the Neck of the Femur and Epiphyseal Disjunction in Early Life, with reference to its Influence upon Prognosis and Treatment." *Medical News,* September 24, 1904.

As a result of the writer's investigations into fractures of this region, it is now generally admitted that fracture of the neck of the femur is relatively common in early life. Exception is taken to the strong tendency among German writers to class these cases as epiphyseal separations rather than simple fractures, and several good points are brought forward against such a classification. The distinction between the symptoms and physical signs in the two classes of cases is given, and the nature of the deformity explained in the situation of the injury and its effect upon the function of the joint. As regards treatment, simple fracture should be treated by fixation at the limit of normal abduction, an attitude which implies restoration of the depressed neck to its normal position. Partial epiphyseal separation should be treated by direct operative reposition of the head. Excision, which is at present in such favour with German surgeons, should be an operation of necessity rather than choice. One should never be content with mechanical support, however efficient it may be in relieving the immediate symptoms, for normal function is dependent upon normal form, and one should always aim to remedy deformity whenever it is practicable.

Frank H. Murdock, M.D. "The Indications for Surgical Intervention in Chronic Gastric Ulcer." *Medical Record,* October 1st, 1904.

Fenwick's classification is the one preferred, consisting of the gastralgic, the catarrhal or vomiting, the dyspeptic, the hæmorrhagic, and the cachectic. Hæmorrhage, perforation and stenosis of the pylorus are the three chief points considered. Hæmorrhage is stated as occurring in about 18 per cent. of all cases of chronic ulcer, and is of a more serious nature than in the acute, and is very apt to recur. Operation should not be delayed too long, as death often occurs without surgical interference. In cases of perforation immediate operation is, of course, demanded. As to the frequency with which stenosis of the pylorus follows chronic ulcer, Brinton computed that severe stenosis occurs in one out of two hundred cases. Fenwick's figures for partial

obstruction are given as from 16 to 20 per cent., while extreme stenosis occurs in only about 2 per cent. On the other hand, gastroenterostomy, the usual operative procedure, has a mortality of 15-30 per cent. In view of the comparative infrequency of hæmorrhage and perforation and pyloric stenosis and the high mortality from gastro-enterostomy and the low mortality from chronic ulcer, 1-8 per cent., it would seem to be the part of wisdom to avoid surgical procedure as long as possible. Exception is taken to Mansell Moullin's position that every chronic ulcer of the stomach that persists and causes serious pain and vomiting in spite of one thorough trial of the ordinary method of treatment should be exposed and treated surgically. The ordinary treatment usually means the Leube-Ziemssen rest cure, extending over a period of six weeks. This is well adapted for acute cases, but not for chronic, the latter generally requiring 12 to 18 months. On the other hand, exception must be taken to the plan apparently advocated, to keep from surgical interference until the stenosis reaches such a high degree as to prevent the passage even of liquids. Between the six weeks' limit and such extreme stenosis there is ample time for the medical man to be convinced the case is not progressing, and from Moynihan's results, as well as from others, it would seem that surgical intervention can do much better than give a mortality of 15 to 30 per cent., if the cases be operated upon when in a reasonably fair condition.

Henry D. Beyea, M.D. "Gastroptosis, with Special Reference to the Surgical Treatment: The Operation of Gastropexy." *American Medicine,* October 8, 1904.

The operation advocated by the writer was first performed by him in 1898. The principle of his operation is that by placing three rows of interrupted silk sutures from above downward, and from right to left through the gastrohepatic and gastrophrenic ligaments, a single, broad, transverse fold or plication is formed in the ligaments, shortening these ligamentary supports and elevating the stomach to normal position, without disturbing in the least the physiologic mobility of the organ. The results obtained have been excellent; 11 cases have now been under observation from eight months to six years after operation, and in every case the improvement in health has been most remarkable and the relief of symptoms complete.

Clarence A. McWilliams, M.D.: "Dupuytren's Finger Contraction." *N.Y. Med. Jour.* and *Phila. Med. Journal,* October 8th, 1904.

Dr. McWilliams sums up the treatment of these cases as follows:—

At the beginning of the disease, we may often prevent its further development by systematic massage, active and passage motions, hot air baths, hot water baths, with the application of extension apparatus at night. Any constitutional diathesis should be treated. In case the disease advances, or in somewhat more developed cases, we may try the result of multiple subcutaneous incisions, followed by the palliative treatment just outlined. In working persons, who can scarcely find the necessary time and means properly to carry on the palliative treatment, we should advise at once a radical operation as the quickest and surest means of effecting a cure. It should be advised at once also in advanced cases. This consists in nothing short of excision of the whole thickened, contracted fascia, with its processes, preferably by one or more longitudinal incisions. The final results of the operative treatment of Dupuytren's contraction are usually very satisfactory.

Henry H. Morton, M.D. "Perineal Prostatectomy, with Report of Ten Cases. *Medical Record*, October 8th, 1904.

The author expresses the conviction that all varieties of prostatic hypertrophy are of inflammatory origin, probably in the majority of instances remotely of gonorrhœal origin. The evidence in favour of this view is not conclusive; many facts point in other directions. The technique of the operation is described and the details of ten cases are submitted. Dr. Morton summarizes his conclusions, which are:—

1. The comparatively low death rate.
2. The rapidity, ease and facility with which the prostate can be enucleated.
3. The trifling amount of hæmorrhage and shock.
4. The excellent bladder drainage and ability to keep the patient's bed and dressings dry.
5. The rapid convalescence, the patient getting out of bed within ten days.
6. The complete restitution of the bladder functions in most cases.

R. A. Bickersteth, F.R.S.C., Eng., M.A., M.B. Cantab. "The Intravesical Separation of the Urines coming from the two Ureters as an aid to diagnosis in surgical disease of the kidneys." *Brit. Med. Jour.*, October 1st, 1904.

The method of intravesical separation of the urine coming from each ureter as employed by French surgeons is described. The method consists in placing temporarily in the bladder a vertical watertight septum, in such a manner as to divide it into two equal lateral halves. The

urine from each kidney as it enters its own half of the divided bladder is immediately drained away by catheter tubes, which form part of the apparatus, and it is collected in a suitable receptacle attached to the handle of the instrument, without having become mixed with the urine from the opposite side.

The instruments devised by Dr. Luys and Dr. Carhelm are figured and described. Dr. Luys's method is preferred. Eleven cases are cited. There is no question of the value to the surgeon in arriving at a diagnosis of information as to the character of the secretion of each organ. These "most exceedingly ingenious contrivances" have had a fairly wide application in this country, and the testimony is that they are not so "marvellously accurate" in their results as Mr. Bickersteth's enthusiastic account would lead us to believe.

Charles Stedman Bull, A.M., M.D. "Operations upon the Eyeball in the Presence of an Infected Conjunctival Sac." *Medical Record,* September 24th, 1904.

Summary.—I. A careful microscopical and bacteriological examination should be made of the contents of the conjunctival sac in every suspected case, carrying the examination as far as the cultivation of the bacteria in a proper medium, and the subsequent inoculation of the germs.

II. If toxic germs are found in great numbers, no matter what their varieties, no operation on the eyeball should be undertaken until the germs have disappeared, and the conjunctival sac has been rendered as sterile as we can hope to make it.

III. If there be suppurative disease of the lacrymal passages, whether of canaliculi, sac, or nasal duct, all operations upon the eyeball are positively contraindicated. The lacrymal sac must be excised, and any operation on the eyeball is undertaken. In the case of a catarrhal dacryocystitis, or of mucocele of the sac, both canaliculi should be incised, and the sac injected daily with an antiseptic astringent solution, and free irrigation through the nasal duct carried out until all secretion has ceased. Even in cases of great urgency, as, for example, acute inflammatory glaucoma, the writer would not feel himself justified in modifying the above statement.

IV. If the secretion of the conjunctival sac on examination is found to be infected, but the bacteria are few in number and of slight toxic variety, operations may be done on the eyeball when necessary, but these eyes should be opened and examined twice in the twenty-four hours, and the conjunctival sac gently irrigated with warm normal salt

solution, or warm sterilized boracic acid solution, and then the eye should be immediately rebandaged.

V. In operating upon the eyeball in the presence of an apparently normal, sterile conjunctival sac, the following steps should be taken;

1st. The forehead, eyebrows, temple, cheek, bridge of the nose, and external surface of the lid should be carefully cleansed with hot water and soap, and dried with aseptic cotton pads.

2d. The margins of the lids should be carefully but gently rubbed with sterilized moist cotton pads, and simultaneously irrigated with a warm sterilized physiological salt solution.

3d. Careful irrigation of the conjunctival sac with the same sterilized normal salt solution, and then closing the lids with a moist sterilized cotton pad. The lids should remain closed in this way until the speculum is introduced.

VI. In all cases the bandage should be removed and the eye examined under the strictest aseptic precautions, as strict as those employed at the time of operation.

VII. On the first sign of infection of the wound, the edges of the lids are to be thoroughly cleansed in the same manner as at the time of operation; the conjunctival sac is to be thoroughly irrigated with the sterilized normal salt solution; the wound is to be reopened and cauterized through its entire length with the galvano-cautery; and the anterior chamber is to be gently but carefully irrigated with a sublimate solution (1-5000); and then the conjunctival sac must be again irrigated, and the lids must be closed simply under a moist sterilized pad.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND W. F. HAMILTON.

Lewis and Longcope. "Experimental Arthritis and Endocarditis produced by a Streptococcus isolated from the blood of a case of Rheumatism Endocarditis and Chorea." *The Amer. Jour. of Med. Sciences,* October, 1904.

A review of the work done on the etiology of rheumatism forms the first portion of this interesting paper. Already the literature on this subject up to quite recent date has had a place in our retrospect. The clinical features of the patient under observation were those of a fairly mild case of multiple arthritis in child eight years of age. After a few weeks, chronic movements were observed, and increased rapidly in their severity. The diagnosis of endocarditis was made upon the find-

ing of an apical systolic murmur. Death ensued. No autopsy was allowed.

Blood cultures were made before death and inoculation experiments done upon three rabbits. The results are recorded in the following paragraph:—

"In a fatal case of rheumatism endocarditis and chorea a streptococcus was isolated from the blood before death. This organism did not differ materially from the common varieties of streptococcus progress in cultural properties, but produced very characteristic lesions in rabbits when injected intravenously. Such inoculations were always followed after a few days' incubation period by a multiple arthritis, which usually started in the ankles. In one rabbit extensive vegetations were found in the mitral valve, while typical infarctions were seen in the spleen and kidney. We believe that this streptococcus is the same as that described by Wassermann Meyer, Poynton and Paine, and Walker, and considered at least by the last three observers to be the specific cause of rheumatic fever."

The Practitioner, October, 1904.

It is worth reproducing the contents of this valuable periodical. The articles are of value, and do not lend themselves to abstraction or summary:

The Treatment of Post Partum Hæmorrhage, by D. Berry Hart; On the Treatment of Post Partum Hæmorrhage, by John Phillips; The Treatment of Atonic Post-Partum Hæmorrhage, by Henry Jellett; Bilharziosis, by F. M. Sandwith; On the Rational Treatment of Gastric Disorders, by W. Langdon Brown; Some Cases of Varioloid, selected from 700 Cases of Small-Pox occurring recently in Leicester, by Allan Warner; The Signs and Symptoms of Measles in Relation to Diagnosis and Prognosis, by Harold Balme; A Review of Recent Investigations in Diseases of the Blood and Blood-forming Organs, by H. Batty Shaw; A Review of Recent Work on Abdominal Surgery, by B. G. A. Moynihan and J. F. Dobson; Foul Air and Standards of Air-Purity, by Louis Parkes.

Society Proceedings.

SOCIETE MEDICALE DE MONTREAL.

The work of "La Société Médicale de Montréal" was resumed on Tuesday, October 5th, under the presidency of Doctor C. N. Valin.

Dr. Decarie, secretary, read the annual report. Dr Asselin, trea-

surer, announced to the meeting, that for the first time since its inception the balance-sheet of the Association showed a surplus.

The election of officers for the ensuing year was then proceeded with. Dr. Oscar Mercier was elected president; Dr. Boulet, vice-president; Dr. Ethier, treasurer; and Dr. Laramée, secretary.

Dr. Valin, the retiring president, reviewed the proceedings of last year, and Dr. Mercier took the chair, after a vote of thanks to the retiring officers had been extended.

Dr. De Martigny moved that Dr. Choquette, of Saint-Hilaire, be the first among the lecturers invited to lecture under the auspices of the Association.

The meetings of the Society will be held hereafter on the first and third Wednesday of each month, at 9 p.m.

Dr. Valin and Dr. Dube promised a paper for the next meeting. The average attendance for last year was 34.

Second Meeting, 18th October, 1904.

Dr. Oscar F. Mercier, President, in the Chair.

A Committee of Administration was formed, consisting of all the former presidents and the officers of the present year, namely, Drs. O. F. Mercier, President; R. Boulet, Vice-President; A. Laramee, Secretary, and A. Ethier, Treasurer. Dr. Paul Courmont, of the University of Lyons was elected a corresponding member. Dr. Valin read a paper upon the importance of Hygiene in the Treatment of Disease. He considered the subject under three heads; first, the evolution of medicine; second, the importance of hygiene on therapeutics, and third, the practitioner in his relation to modern hygiene. The discussion which followed was shared in by Drs. Lachapelle, Hervieux, Dubé and Mercier.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

First Meeting, 7th October, 1904.

J. A. Macdonald, M.D., President, in the Chair.

Dr. H. S. Birkett, the retiring President, delivered the annual address:

It becomes my duty once more to report upon the work of the past session, and in doing so I have drawn largely from the report of the Secretary. Eighteen regular meetings and one special meeting have been held. The average attendance was 54 members, a number far in excess of that for many years past; in fact, the highest average attendance in the history of this Society. At these meetings fourteen papers were read and twenty-one cases reported. Many living cases were brought before the notice of those present at these meetings, and the

members of this Society had the pleasure of attending three lantern demonstrations, including one on radium. The number of names at present registered in our roll-book is as follows:—

Resident members	162
Non-resident members	4
Temporary members	30
Honorary members	1
Total	197

Ten new names have been added to the list of resident members and one to the list of non-resident members since November 1st, 1903. We deeply regret to record the loss of one of our members, Dr. Rollo Campbell, who died last May from a very severe attack of typhoid fever.

The programmes for the regular meetings have been in most cases arranged months before the stated meetings, consequently we have had the pleasure of hearing many carefully prepared papers and cases reported.

Amongst others contributing to the success of these meetings were Drs. Osler and Cushing, of Baltimore; Goldthwaite, of Boston; Primrose, of Toronto, and Professor Rutherford, of the Faculty of Applied Science, McGill University.

The presence of these noted persons and the value of their contributions have, I trust, done a great deal towards stimulating us to greater work in the future.

The collection of portraits of deceased Presidents has been increased since our last report by the addition of one of the late Dr. Godfrey, to whose relatives we have extended our hearty thanks and appreciation.

The Library Committee has a special recommendation to make in strongly urging our members to recognize the importance of taking more active steps towards establishing a library upon a useful and satisfactory basis, realizing that what may now appear to be only a small beginning may in the future be the means of doing untold good, and of leaving behind us something which the medical profession of this city might have reason to be proud of. The question of publishing transactions containing the results of the work of the Society, in extenso, is also a matter for serious consideration. It is almost a reproach to this Society that this work, so well begun years ago, should have been allowed to elapse, owing undoubtedly to the lack of interest shown by our members.

Another point I wish to touch upon is the inactivity of our members in dealing with papers brought before them for consideration. How often have we witnessed carefully prepared papers passed over in

absolute silence? Such a procedure is anything but encouraging to those who would otherwise present papers to this Society. I would therefore strongly urge our members not to be so indifferent to the subject presented to them, and of which due notice is sent, but to devote a little time to thinking over the subject to be considered at a future meeting, and come prepared to discuss it to some extent. This is especially applicable to our junior members, who, however, offer as excuses diffidence, and even fear, or want of experience in addressing an audience; but if one will advance oneself, one must be prepared to be differed from at times. Such differences have often proved of the most value in promoting interesting discussions.

To juniors, to whom I most earnestly appeal, I would say, do not for a moment think that nothing occurs in your practice which would not be of interest to your colleagues. It is by the smallest beginning that men have made themselves famous. You are the backbone of this Society, and in your hands lies its future. We are all here as students, and even the oldest may learn from the youngest. The duty which you have honoured your officers with is to say the least of it onerous, and it remains with you to make it as light and prosperous as possible. Therefore, be up and doing, and so further the reputation and good work which this Society is endeavouring to carry out.

Another matter which, I think, demands the attention of the members of the Society is the question of the Hospital for Infectious Diseases. We are entering upon a season during which infectious diseases are especially apt to be prevalent, and with absolutely no provision to cope properly with such cases to the best advantage to the general community. I think, therefore, it is very desirable that some form of protest against delays in promoting this hospital should receive support from such an important body of medical men which this Society represents, and would therefore suggest, if I may be allowed to do so, that those now in office take some steps towards furthering this object.

In conclusion, to those who have been associated with me in office during the past two sessions, and to the members in general, I desire to express my warmest thanks for the cordial support given to me upon all occasions, and to this support is largely due whatever success has attended our efforts. I would therefore ask each of you to accord to our newly elected President and his able assistants the same cordial support.

At the conclusion of the address the thanks of the Society were given to Dr. Birkett and to the retiring officers. A smoking concert was held, in which Drs. Harvey, Craig, Haldimand, Lauterman and Morphy took a part.

THE

MONTREAL MEDICAL JOURNAL.

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THE TREATMENT OF ECLAMPSIA.

BY

DAVID JAMES EVANS.

Lecturer on Obstetrics and Diseases of Infants.
McGill University, Montreal.

Eclampsia is generally conceded to be a toxæmia,—a form of auto-intoxication. As to the source of the toxin there is at present no unanimity of opinion. It is thought by some that the toxin is developed as a result of the failure in function of the maternal organs, the liver, kidneys, thyroid. Others advance the view that the toxin is developed by the fœtus, and that eclampsia results from failure of the maternal organs to deal with the excess of waste material. Recently the opinion has gained ground that the placenta is the source of the toxin, either by a specific action of its cells or by defective function.

Dealing with the maternal origin of the toxin Berkley suggests that there are different varieties of eclampsia, just as there are different varieties of puerperal fever, and that a failure of the kidneys, liver, thyroid or intestines to perform their functions properly results in an accumulation of the particular waste products which they customarily deal with, and a consequent general poisoning of the body, so that all the organs are more or less affected, and eclampsia results.

Zangemeister's investigations in the Leipzig Clinic to determine the relation between eclampsia and the renal function prove fairly conclusively that eclampsia does not depend on changes in the renal secretion, nor is the toxin eliminated by them. Variations in diuresis and in concentration of the urine occurring in the course of an eclamptic attack, indicate that disturbance of renal secretion and convulsions depend on one and the same cause. He points out that a diminution in the excretion of the chlorides is, with the lessened quantity of the urine, the most marked and constant change which the urine undergoes in eclampsia. With the cessation of the attacks, increased excretion of the chlorides takes place. From an examination of the blood in these

Read before the Montreal Medico-Chirurgical Society, 21st October, 1904.

cases, it is evident that its constitution plays no role in the diminution of the chlorides in the urine.

Karanyi has proved that the excretion of the chlorides depends on the circulation in the kidneys, and when this is interfered with there is diminished excretion, therefore it is evident that in eclampsia there exists an active contraction of the vessels of the kidneys. Zangemeister proves that a similar condition exists, to a minor degree, in normal labour, and considers that all the phenomena of eclampsia may be due to arterial spasm giving rise to periodic anæmias of kidneys, liver, pancreas or brain. Since eclampsia only occurs during period of active uterine contraction, he suggests that the arterial spasms are brought on with the uterine contractions, or by them.

The view that the toxin develops in the fœtus receives some clinical support from the fact that as a rule the disease comes on in late pregnancy when the fœtus is well developed; and that with the death of the fœtus, in many cases, the symptoms of toxæmia rapidly subside and the patient recovers. Kaltenbach and Fehling are strong supporters of this theory.

Dienst holds that eclampsia results from insufficiency of the maternal excretory organs in the presence of the fœtal waste products, this arising from their previous morbid exudation, or resulting from the deleterious action of the fœtal toxins upon them. He particularly dwells on the harmful action of these toxins on the maternal heart and suggests that the impairment of its function is the most important factor in bringing about the accumulation of toxin in the maternal organism. Dienst has drawn attention to the frequent development of convulsions in the children of eclamptics, and in several such cases has found the characteristic changes, associated with eclampsia, in the fœtal liver and kidneys. He explains this by suggesting that when the maternal blood is saturated with the toxin, a "reinfection" of the fœtus follows, setting up kidney and liver changes in it, which leads to its death, either before or after its birth.

The view of the fœtal origin of the toxin has received a severe setback in a recent paper by Hitschmann, who reports a well marked case of eclampsia in a ii. para at the 18th week of pregnancy. She was delivered of a large hydatid mole and no trace of a fœtus was found. It is thus evident that fœtal toxins cannot be the sole cause of eclampsia.

Recent investigation certainly seems to favour the view that the source of the toxin is in the placenta or the tissues entering into its formation.

Veit and Schmorl think that the deportation of the cells of the fœtal

villi, leading to the formation of a syncytiolysin in the maternal circulation, is a probable explanation of the toxæmia; in short, that eclampsia is an auto-intoxication due to a poison of syncytial origin. This view was elaborated before this Society at some length recently, so I will only recall it to your attention on this occasion.

Bandler supports this theory, and in a recent paper advances the view that the placenta is a gland giving off into the maternal circulation an enzyme from the trophoblast and syncytial cells. That the ovary is an organ furnishing an enzyme which has among its attributes the property of resisting or modifying the action of the fœtal enzyme. This he terms the maternal enzyme. Eclampsia, he suggests, is due to a mal-secretion of the fœtal enzyme or a relative mal-secretion or insufficiency due to the action of the maternal enzyme.

The action of the toxin, however it may be produced, upon the maternal tissues must now claim our attention.

The eclamptic attack is simply a symptom of the action of these toxines. The most evident clinical fact, outside of the convulsions, is the irritation of the vaso-constrictors and increase in arterial tension. The whole brunt of the attack is borne by the nervous system.

The oliguria and anuria result from this vascular spasm, which also leads to laceration of the finer blood vessels and results in hæmorrhagic exudations into the tissues. The coagulation necrosis found in various organs may thus be explained, especially when the fibrin of the blood is increased, as is reported to be the case by Dienst, who calls attention to the increased formation of fibrin in this condition. In fatal cases he has found it to be tenfold over the normal. The role of the leucocytes in the formation of fibrin ferment is well known, and Dienst has established the occurrence of well marked leucocytosis in eclampsia; hence it is evident that these poisons have a distinct leucocytic tendency. Their rapid manufacture, due to the toxæmia, results in their lessened resistance, so that they, in breaking down, thus indirectly contribute to the formation of fibrin ferment and pave the way for extensive thrombosis.

I trust that this brief review of the etiology and pathology makes it evident that in eclampsia we have to deal with a toxæmia, which, however produced, is of more or less gradual onset and that the toxin acts by giving rise to arterial spasm and affects certain organs as the kidneys, liver, and heart; and when in sufficient quantity in the maternal organism, precipitates itself on the general nervous system, producing a storm which wrecks the mother and child, or if only the latter tends to subside with or without permanent damage to those structures which bore the brunt of the attack.

There is not much to be said concerning the prophylactic treatment of eclampsia, but it would be a great help to us if we had some idea of those who are prone to attacks of this condition.

In my experience two classes of women are subject to eclamptic attacks. These are, the spare, active, nervous women, with a sluggish bowel action and a torpid skin. In this class the œdema is not marked as in the other, and, as a rule, the poison seems to attack the liver or kidneys, hence bloody urine and the speedy development of jaundice. The second class are those women of lymphatic chlorænic tendency, with feebly acting hearts, and poor circulation. In this class œdema is a marked symptom, and it is probable that heart and circulatory system first yield to the pernicious influence of the toxin. If patients clearly belonging to one or other of these classes give a history of an attack of nephritis in early life, the course of pregnancy must be carefully observed.

Prophylactic treatment would mean in the first class, stimulation of the sluggish bowel and skin by appropriate hygienic, dietetic and therapeutic means. Strain of the nervous system should be avoided, and plenty of rest secured. In the second class attention should be directed to the condition of the blood and heart; iron, arsenic and strychnia being chiefly indicated. It is unnecessary here to reiterate the importance of careful examination at short intervals of the urine for albumin, urea and casts. In suspected cases the total daily quantity excreted should be recorded.

Time does not permit discussion of albuminuria, deficiency of urea excreted or other urine conditions associated with the development of this condition, nor is it necessary to refer to the premonitory symptoms which are too well known to all.

A severe attack of what the patient is apt to consider severe indigestion is always to be viewed with suspicion after the fourth month of pregnancy, and should lead to an examination of the urine for several days in succession.

In the pre-eclamptic stage, that is, when the patient gives evidence of developing toxæmia, the object of treatment is to prevent the accumulation of the toxin, and to assist its elimination. Hot baths, milk diet, rest in bed, free purgation, and copious draughts of water, make up the general line of treatment.

Oliphant Nicholson has advanced the theory that the secretion of the thyroid gland plays a distinct role in preventing the occurrence of eclampsia, by promoting the metabolism of nitrogenous substances Iodo-thyroidin appears to be an ideal vaso-dilator and it is probable that it is thus the secretion of the gland operates. Nicholson states

that in the pre-eclamptic stage he has had excellent results from the administration of from 15-20 grains of thyroid extract daily. I have had experience in this treatment and feel that in a few cases it has been of distinct value promoting diuresis and increased elimination of urea. Many have reported favourably of its action in this stage.

In the convulsive stage, when anuria is a marked symptom, Nicholson recommends that 30-40 grains be given at a dose, and a second dose of 20-30 grains six hours later may be required, as the subject is to produce thyroid intoxication as rapidly as possible, and in his experience there is less danger from giving large doses than from the continuous administration of smaller quantities.

Sturmer of Madras has used the thyroid treatment extensively, and reports that it almost invariably leads to prompt increase in the diuresis, acting thus more promptly than salines, which take 24 hours. He reports a mortality of 12.2 per cent. in forty cases treated in this manner; his mortality in the previous year was 44 per cent. under other treatment.

The treatment in the eclamptic stage in directed towards, (*a*) controlling the convulsions; (*b*) assisting elimination, and (*c*) dealing with the pregnancy.

A review of recent literature on this subject leaves one in a bewildered condition, as the want of unanimity is its chief characteristic. Roughly speaking, the profession is divided into two classes as regards the treatment of eclampsia, the point at issue being the method of dealing with the pregnancy.

The conservative element, represented in Germany by Pfannenstiel, Ahlfeld and Krœmer; in Great Britain by Herman, Ballantyne, Lockyer and Munro Kerr, and in America by Williams, and also the French school in general, look upon emptying the uterus as only a part of the general treatment of eclampsia, directing attention particularly to controlling convulsions and assisting elimination. The conservative element does not approve of inducing labour in all cases, but leaves it to nature until such time as interference can be undertaken without increasing the risk of the mother. Version, forceps, or embryotomy (if the child is dead), after the os has dilated, is the course adopted. They claim that, as a rule, labour rapidly sets in after the development of convulsions. The fact that eclampsia develops in not a few cases after the delivery of the child lends support to the view of this class.

Those who believe in active treatment, that is *accouchment forcé*, are probably the more numerous. Certain it is that the weight of opinion at the Congress in Geneva in 1896, was in favour of emptying the uterus as quickly as possible, and, if anything, this opinion has become

more general since. The argument of this class is that eclampsia is a product of pregnancy, and that, therefore, the sooner the pregnancy is terminated the quicker will the source of the toxin be removed. The fact that the eclamptic frequently improves upon the death of the child in utero, is advanced in support of this view. This class is again divided, particularly in Germany, where the argument is heated in the extreme, as to the method to be adopted in terminating the pregnancy. There are three parties, one devoted to dilating the os by means of instruments, or manually; the second preferring incision; while the third, by far the smallest class, advocates the abdominal route, *i.e.*, Cæsarean section.

The conservative treatment then is directed towards controlling the convulsions and securing the elimination of the toxin, leaving the pregnancy to be dealt with when the os has dilated sufficiently to permit delivery by forceps or version. What might be called the active treatment is first to clear out the uterus as rapidly as possible, and then to endeavour to secure elimination of the toxin.

Believing the convulsions to be due to toxic nerve irritation, resulting in spasm of the vaso-motor system, nerve sedatives and vaso-dilators are administered in order to secure control. The Germans use but few drugs—chiefly morphia and chloroform—while many, as in the Giessen clinic, use no narcotics.

The nerve sedatives employed are chiefly chloral, morphia and chloroform. Both English-speaking and German physicians employ chloroform to control the actual convulsion, while many limit its use to the time of delivery. It is believed to relieve the venous congestion by lowering arterial tension.

Morphia is usually administered in large doses, $\frac{1}{4}$-$\frac{1}{2}$ grain. It is believed to inhibit metabolism, thus stopping the formation of toxin, and to overcome the vaso-motor spasm, thus favouring urinary secretion. Veit, who thinks that generally an insufficient amount is used, has given as much as three grains in four hours, but, as a rule, the maximum dose in 24 hours should not exceed two grains. Berkeley, who has canvassed the obstetricians of Great Britain upon the treatment of eclampsia, states that the majority of English physicians employ it. He quotes Löhlein, who has collectetd 325 cases, with a mortality of 13.3 per cent. where this drug was used.

Chloral is employed by a few Germans, but the majority of English physicians have abandoned it. Charpentier recommends its use in large doses, he giving as much as half an ounce in 24 hours. Many concede that it may be of use in the milder cases, but should not be employed when coma is marked.

The vaso-dilators employed have been numerous and not a few physicians pin their faith to various of these as panaceas for eclampsia; but few of them have many friends and most of them have but few friends.

Pilocarpine, at one time popular, has been abandoned as uncertain and often dangerous. Veratrum viride is employed chiefly in America. It acts by dilating the arteries and depressing the heart. It is said to promote the activity of the skin and to favour diuresis. It is best administered hypodermically, 20 minims of the fluid extract as an initial dose, followed by ten minim doses at intervals of half an hour, till the pulse is kept below 60. It is a powerful cardiac depressant so is contraindicated when the pulse is weak and irregular. It is difficult to form an opinion as to the value of this drug, for its friends claim too much for it and its failure in the hands of men of large experience and of good judgment, do not inspire faith. My personal experience is that it has not been any more successful than other drugs of its class and I have practically abandoned its use.

Reference has already been made to the use of thyroid extract as a vaso-dilator.

Helme, of Manchester, in May last, suggested the employment of subarachnoid puncture in eclamptic convulsions, believing that the convulsions and stupor are dependent upon increased intracranial pressure. In November, 1903, he successfully treated a severe case by this means. He withdrew a drachm and a half of cerebro-spinal fluid by lumbar puncture, and mentions that the fluid escaped rapidly as if under considerable pressure.

Kröning, of Jena, in the *Zentralblatt für Gynäkologie* for October 1st, 1904, has a paper on this subject in which he fails to notice Helme's case, seeming to have been independently led to the same conclusion. In view of the marked increase in the blood pressure of eclamptics he was led to investigate the degree of pressure upon the cerebro-spinal fluid in these cases, hoping thus to possibly find some therapeutic results by removing a certain quantity should the intracranial pressure be found to be augmented. He reports three successful cases so treated. The first of these was a severe case and may be referred to in some detail. To the needle used in the lumbar puncture was attached a Quincke's apparatus for estimating the pressure under which the cerebro-spinal fluid escaped. The pressure was found to rise between 480 and 540 m.m., water pressure. On withdrawing 20 c.c. of fluid the patient had a convulsion which raised the intracranial pressure to over 600 m.m., the capacity of the Quincke apparatus. In all he withdrew 42 c.c. of cerebro-spinal fluid, the intra-cranial pressure then varying be-

tween 80 and 120 m.m. No convulsions occurred after this time. The patient was then delivered by vaginal-Cæsarean section. The other cases were identical. He concludes his paper by stating that no conclusions can be drawn from these cases as in all three, other important thearapeutic means were employed. But he is certain of two points: that no harmful effects resulted from any of the cases, and that the general satisfactory condition of the patients seven to eight hours afterwards could not be wholly ascribed to the withdrawal of the cerebro-spinal fluid.

From the results reported it is apparent that further investigation along this line is warranted.

The elimination of the toxin is promoted by means of venesection, purgation, salines and hot packs and baths.

Venesection is of value in sthenic cases, where cyanosis is a marked symptom. It is also indicated when the right heart is over-dilated, and engorgment of the lungs is present. Williams thinks that it should be employed in all cases where the fits continue after delivery of the child. He withdraws 500 c.c. of blood, and injects the same amount of saline solution.

Many believing that the toxin is generated in the digestive tract, urge purgation. The same method of treatment is urged by others in order to favour the elimination of the toxin from the system in general. The Germans do not pay so much attention to active purgation as do the English and French. Magnesium sulphate is the favourite drug, but croton oil is used by many. Personally, I am strongly in favour of saline purgation, as I think it favours elimination of the toxin.

The Germans generally, rely on bowel and stomach washing to clear out the digestive tract. Usually warm saline solution is employed in large quantities and the treatment is repeated at intervals of four to six hours.

Dienst, believing that the alkalescence of the blood favours the oxidation metabolism, suggests the free use of bicarbonate of soda as a drink or clyster. In comatose cases he injects it into the stomach.

Subcutaneous saline injection is also generally employed and with very beneficial results. Acetate and chloride of sodium in the proportion of one drachm to the pint, at a temperature of 100 deg. may be injected into the sub-mammary tissue. The salines are supposed to dilute the toxins and to favour both diaphoresis and diuresis. As a rule the diuretic effect of saline injections is not apparent for at least 24 hours.

Hot baths are useful in the pre-eclamptic stage, but packs and hot air give the best results in the eclamptic stage.

Pfannenstiel reports 35 cases treated by hot packs, without a death.

Ahlfeld wraps his patients in woollen blankets, a broad towel being tied around the body at the level of the elbows, and another at the knees, to secure the coverings. A hypodermic of morphia is given and the patient kept free as possible from all disturbance in a warm, well ventilated room. He reports a mortality of only 6.25 per cent. in a series of 32 cases.

Renal decapsulation has been recently suggested by Edebohls as being of value in the treatment of eclamptic anuria. He reported, eighteen months ago, a case of post partum eclampsia treated by this means. The anuria was overcome, no more convulsions followed the operation and the patient made a good recovery.

Sippel, in April last, making a post mortem section on an eclamptic was impressed by the evident tension of both renal capsules. On slitting up the capsule of both kidneys the renal substance seemed to escape under pressure, while the capsules retracted, the condition being comparable to glaucoma. He suggested, as a result of this observation, the employment of nephrotomy in anuric eclamptic cases, evidently unaware of Edebohls' case.

Recently Edebohls has performed decapsulation two days before delivery and claims a brilliant success. The case was in the 38th week of pregnancy. Twins were diagnosed; but 360 c.c. of urine containing four-tenths per cent. of urea was passed in 24 hours preceding operation. The general condition was grave, and the amaurosis severe. The kidneys were found enlarged, the capsules being loosely wrapped around them, there being no evidence of tension. The kidney surfaces presented a "dirty-grey, turbid, sluggish and stagnant appearance." The operation took but 45 minutes to perform.

For 24 hours after the operation there was complete suppression of urine; then diuresis began, 1,000 c.c. was measured, besides which a large quantity escaped into the bed in the second 24 hours, and the sight greatly improved. Then labour began and was uneventful except for a slight convulsion, and two attacks of twitching. He states that during the four or five days succeeding the delivery there was a "perfect deluge of urine, the quantity of solids and urea contained being simply enormous."

I can find no record of Sippel's suggestion having been acted upon in Germany, but trust that encouraged by Edebohls success, reports of further investigation of the value of this procedure may be forthcoming.

The third point in the treatment of the eclamptic is the important one of dealing with the pregnancy.

The conservative element, as here stated, leaves the case to nature, at least until the os is dilated or easily dilatable, when delivery by

forceps or version may be undertaken, as in their opinion labour will result from the stimulating effects of the toxins. Alhfeld and Pfannenstiel state that they have never had occasion to induce labour in cases which had developed convulsions.

In cases where prophylactic treatment fails and the general condition threatens actual eclampsia, and in rapidly developing amaurosis, it is evident that in many cases to save the child, as well as in the interest of the mother, it may be necessary to induce labour.

In such cases there are three methods of procedure, and all have their enthusiastic advocates, each armed with statistics favourable to the operation extolled.

Where rapid delivery is not demanded, the introduction of bougies, as recommended by Krause, may be adopted. One disadvantage is its uncertainty. Partial dilatation of the os by steel dilators and the insertion of a Champetiere de Ribes bag, or other forms of hydrostatic dilators, is a more certain method, and, in the opinion of Williams, is to be recommended instead of the "forcible and brutal dilatation" of the rigid cervix by means of metal dilators.

Those having surgical experience prefer the prompt incision of the cervix, the so-called hysterotomy or vaginal Cæsarean section, urging in its favour speed and certainty of result, without undue shock to the patient.

In the status eclampticus *accouchement forcé* is preferred by all but the definitely conservative school.

As to the relative advantage of the expectant over the active treatment it is difficult to formulate an opinion from the results so far published. The figures advanced by Herman show that in 1,500 cases, the fits continue after delivery in 52.5 per cent. of cases and that fits stop on delivery in 47.5 per cent. of cases.

While Williams quotes the results of Dührssen, Ohlshausen, and Zweifel, who noted a cessation of the seizures either immediately or soon after delivery in 93.75 per cent. 85 per cent. and 66 per cent. of their cases respectively, while Zweifel reports a mortality of 28.5 per cent. under expectant, and 11.25 per cent. under active treatment.

Thus in general it may be said that speedy termination of the pregnancy gives a better result, but the balance in favour of operative procedure is by no means pronounced.

Rapid manual dilatation of the os uteri is rarely possible, especially if the cervix has not been completely taken up.

Of the metal dilators, that devised by Bossi is at present the most satisfactory. The original instrument has but four branches, their separation being operated by a screw in the handle. The original

instrument has been modified in many ways, but chiefly by addition to the number of branches. This instrument has evidently come to stay and is now in very general use.

Ballantyne, reporting eight cases in which he had used the Bossi dilator, expresses the opinion that "there are cases of eclampsia in which the safety of both mother and child may be better assured by means of the use of Bossi's dilator, than by any other known plan."

The instrument being very powerful must be used with caution, but by means of its careful employment dilatation can be obtained in from 10 to 80 minutes without damage to the maternal tissues. The chief danger from its use is that of laceration and consequent hæmorrhage. To avoid this accident it is important to keep the distal ends of the blades well within the os internum, and to take plenty of time. Many have reported severe lacerations following its use, but when such a powerful instrument is placed in the hands of careless operators accidents of this sort are bound to occur from time to time.

I have employed it four times and in but one case was there any laceration noted, and in that case I am not altogether satisfied that the instrument was to blame.

Probably the most rapid means of terminating pregnancy is by the employment of deep incisions of the cervix. This method was first recommended by Bumm under the name of hysterotomy. The operation was perfected by Dührssen in 1896, and is now generally termed vaginal Cæsarean section. The operation must not be confounded with the method of dealing with the rigid cervix by means of multiple incisions previously recommended by Dührssen.

To perform the operation a median incision is made in the anterior vaginal wall reaching to the cervix. The bladder is then pushed back and the anterior lip of the cervix split in the median line right into the uterine cavity. If sufficient room is not thus obtained for the passage of the fœtal head a similar incision is made in the posterior wall of the uterus, care being taken not to open into the sac of Douglas. In primiparæ, where the vulvar opening is small, the perineum is split so as to avoid the rectum. The child is then delivered by version and the placenta expressed in the usual way. Should hæmorrhage from the uterine cavity be severe it may be packed with iodoform gauze. Four to six sutures of catgut usually repair the uterine incisions, and two or three, the anterior vaginal incision. Occasionally it is necessary to employ a gauze drain in the space between the bladder and uterus at the upper end of the vaginal incision.

Hofmeier and others have reported cases in which severe hæmorrhage has followed this operation from extensive tearing of the uterus by the

after-coming head. Dührssen has never seen a case of severe hæmorrhage in the large number of operations he has performed.

Time does not permit an extensive review of the literature pertaining to this operation, but it may be said that in Germany it has won for itself a permanent place in the field of obstetric operations. Munro-Kerr, of Scotland, has reported three cases thus operated upon and says the operation is not attended with difficulty, the stitching being the most difficult part. He considers the operation requires some surgical experience, and is consequently not suited for ordinary general practice. Yet several successful cases have been reported by general practitioners both in England and America.

Webster and Bacon have reported a number of cases operated upon in America. Bacon in reporting favourably of the operation draws attention to the following advantages it possesses: The peritoneal cavity is not opened, thus the dangers of peritoneal contamination are avoided, as well as the disadvantages of peritoneal adhesions. There is much less hæmorrhage than from abdominal Cæsarean section, as the site of the placenta is not infringed upon. The scar in the uterus is probably in a less dangerous location than in the case of abdominal Cæsarean section. The scar and consequent weakening of the abdominal wall is avoided, and in general the consent of the patient to such an operation is more readily obtained than for abdominal Cæsarean section.

Halbertsma first suggested the use of abdominal Cæsarean section in eclampsia, and since then the operation has been frequently performed in such cases.

Pollak, of Vienna, has recently published a comparison of the comparative results of abdominal Cæsarean section and dilation by means of the Bossi dilator. He has collected 82 cases of abdominal Cæsarean section performed for eclampsia, with 48 maternal deaths and 33 fœtal deaths. In 71 cases delivered by dilatation by means of the Bossi instrument, the maternal mortality was 12 and the fœtal 10. Hammerschlag reports 21 cases of vaginal Cæsarean section collected from literature. Nine mothers died, six of eclampsia, two of sepsis, and one of pneumonia. The fœtal mortality is not given.

It thus seems that the more conservative method by Bossi dilation gives, on the whole, better results than either abdominal or vaginal Cæsarean section.

Hammerschlag of Königsberg, has well summed up the present treatment of eclampsia in a recent paper and I cannot do better than quote his conclusions which give full expression to my own opinion:

He distinguishes between light, moderate and severe cases, according

to the number and frequency of the convulsions, the coma, and especially, the quality of the pulse.

In light cases we must depend upon stimulating the excretory functions of the body by hot packs, subcutaneous salines, and the use of narcotics in full doses, especially morphia and possibly chloral; then awaiting the spontaneous onset of labour, deliver the woman as easily as possible.

In moderate cases labour may be induced by Krause's method or by means of hydrostatic dilators, and delivery accomplished by version or forceps

In severer cases, where the convulsions follow one another rapidly, and possibly after the first convulsion coma persists and the pulse rapidly fails, we must resort to, besides the above methods, *accouchement forcé* by means of the Bossi dilator in multiparæ, and, in cases where the cervix is particularly rigid in multiparæ, as well as in most primiparæ, vaginal Cæsarean section.

Discussion.

Dr. Lapthorn Smith: Many of the facts mentioned in the paper this evening are, I presume, merely brought forward because they occur in the literature and not because the writer agrees with them. Some, however, I agree with heartily, especially the theory of spasm of the arterioles of the brain as the cause of convulsions. This theory I brought forward some years ago at this Society and I think Dr. Wesley Mills was the only member who seemed to think there was something in this, and I may say that my paper was noted in many of the German, French and English medical journals at that time. What interferes with the circulation in the kidneys of the mother? It is pressure on the renal veins which prevents blood from getting out of the kidneys. Why do I believe that this is the beginning of the trouble? Statistics prove beyond doubt that it is much more frequent in twin pregnancies where there is greater pressure on the renal veins, and also that it is much more frequent in primiparæ, where the abdominal wall is much more tense. I also believe that this is the cause, because as soon as the pressure is relieved, the kidneys begin to act immediately, or they will gradually resume their functions, and, as Dr. Evans says, one of the most certain ways of putting an end to the convulsions is to empty the uterus. For my part I do not believe in either the liver, thyroid or placenta theories, because we do not need to go further than the kidneys themselves for sufficient cause, for the whole trouble can be found there. A very important question for the practitioner is what to do when he has a threatened case of eclampsia? When a preg-

nant woman has her urine loaded with albumin, the kidneys are not working properly. It is ridiculous to say that the kidneys have nothing to do with the convulsions which are imminent. Dr. Decotret, director of the largest maternity hospital in Canada, has collected several hundred cases of albumuria of pregnancy, and in no case has eclampsia supervened when the albuminuria was recognized one month before delivery. Although the urine may be loaded with albumin, if the patient is put on a milk diet for a month before delivery, convulsions have not occurred. Acting on this suggestion, I treated a case I had sent me a few months ago in the same way, the albumin cleared up and she had no convulsions. In a case of convulsions I believe that a $\frac{1}{2}$ grain of morphia hypodermically would be the best thing to give. Three cases which I reported each received first a $\frac{1}{2}$ grain of morphine, then 10 minims of veratrum viride, and then an injection of a pint of salt solution, and neither of these cases had convulsions after this treatment was begun. Dr. Decotret employs this treatment in his cases of eclampsia and he has had no deaths in over 50 cases, with the exception of two or three who were comatose when brought in. The $\frac{1}{2}$ grain of morphia will relax the tension to some extent, but the veratrum viride repeated every quarter hour until the pulse falls to forty is the best means of relieving the terrible vascular spasm and allowing the blood to get into the brain and kidneys. Some 30 members of the American Gynæcological Society are strongly in favour of its administration, some giving it until the pulse comes down to 40. Some objection has been made to the morphia on the ground that it dries up the secretion, but as the kidneys are not secreting at all this does not need to be taken into account. With regard to the emptying of the uterus immediately I was at one time in favour of this if the kidneys were likely to suffer permanent damage or ruin, but since I have seen the results of absolute milk diet before, and the morphine and veratrum if convulsions come on, I no longer feel that that is necessary. If the convulsions were not soon stopped, I would be in favour of delivering the woman as soon as possible. I am not in favour of using powerful instruments, and I may say that on speaking to several prominent doctors in Europe, I found that they were all of the opinion that the Bossi dilator was a dangerous instrument. Hydrostatic pressure was more natural and much safer.

Dr. Shaw: In mentioning the various theories as to the cause of eclampsia, Dr. Evans omitted to mention one which appeals to me very strongly, I refer to Herz's theory, that the toxins circulating in the blood cause a functional paralysis at first of the liver, and secondarily of the kidney, and also in the spleen, which may account for the non-

appearance of pathological conditions in these organs after death, where death results soon after the eclamptic attack. At most, a condition of fatty degeneration is seen. McEwen, of Cornell, has gone so far as to state that he has never performed an autopsy in either a case of the toxæmia of pregnancy or the pernicious vomiting of pregnancy but he has found this fatty degeneration of the liver.

The following table is the result of several years' work upon the urine of pregnancy, done with the view of obtaining clinical data that would be useful in the early diagnosis of toxæmia:—

	Normal non-pregnant woman.	Healthy pregnant woman.	Pregnant doubtful cases in which albumin develops with nervous symptoms.
Quantity	1100 cc.	1389 cc	655 cc
Specific gravity	1021	1022	1022.8
Urea	20.5 grms.	18.08	12 38
Phosphoric acid	2.6	1.95	1 46
Total solids	53.7	71.2	34 51

Now, what conclusions are we to draw from these figures? If we consider the condition as an irritation of the liver and kidney causing a functional paralysis, we come to these clinical facts that the poison, whatever it is, whether urea, or a product of liver insufficiency, or some enzyme found in the placenta, starts up an irritation of the liver and secondarily in the kidney, and causes a functional paralysis of the organs and the first thing to be affected is the excretion of water. The water seems to be unable to pass and we have then a retardation of the usual excretion of water. That accumulates sometimes to an enormous extent. Next, we have the urea held back and acting as an irritant to the kidney, and the phosphoric acid also to a small extent is held back. The enormous quantity of total solids that are retained shows that here we have a leading cause. These are not able to get into solution on account of the small quantity of water passsing through. Is it right when we have a kidney functionally unable to excrete water, to add more water? This is where the mistake is made in some of these early cases. One of my cases shows this very nicely. I examined the urine about the beginning of September and found the total quantity to be, 769 c.c., the specific gravity 1030, the urea 16.14 grm, and the total solids 53.75 grm. The percentage of urea was fairly high, but the total quantity was somewhat diminished but not markedly. On the 23rd of that month I again examined the urine and found, quan-

tity 799 c.c., sp. gr. 1030, urea 17.58 grm. total solids 55.85 grm, and a slight trace of albumin. The patient was confined that evening and six hours afterwards developed convulsions. An examination immediately after gave—quantity 533 c.c., sp. gr. 1020, urea 8.52 gram., total solids 24.83 gram, and .1 per cent. of albumin. Here a month previously there was no albumin, but there was a remarkable falling off of water and the total solids and this was the time to treat the patient for eclampsia.

As to treatment, first the hyperæmia present should be relieved by encouraging the patient to refrain from drinking freely and to administer a good dose of salts on rising—these patients not being ill enough to stay in bed—followed later by the use of acid tartrate of potash, which has a marked influence in throwing off water into the intestine. Acid tartrate of potash requires to be followed by a purgative such is the compound jalap powder or some drug of that kind. Cream of tartar also acts directly on the kidney. Other drugs that are safe and which may be used as soon as the kidney has commenced to excrete more freely, are caffein citrate, which tones up the circulation and acts directly upon the kidney, without producing any inflammatory action; it is related chemically with urea and uric acid. With regard to the exclusive milk diet, it has been pointed out by Von Noorden that a patient requires about three litres of milk a day, and as there is in this a large quantity of proteid, it is better to modify it somewhat by adding cream and carbohydrates. It has been proved that a patient on modified milk is able to live on less amount of proteid than one on ordinary milk. With soups and some of our cereals like oatmeal, flour, etc., some butter and fruits, we have a mixed diet which is better for our patient than a milk diet alone. Phosphoric acid is not difficult to get rid of, as by adding a little carbonate of lime to the food it will combine with the acid and most of it goes by way of the bowel.

In a recent dissertation, by W. Louis Chapman, on Auto-intoxication, he says in regard to urea and uric acid.

"The pendulum of opinion as to the toxicity of urea and the part "it plays in the causation of uremia has swung from one extreme in "which it was thought that it did not participate in any material way "in its production, to the other, in which it was considered as the sole "cause of uremia. Bouchard has claimed that it has but little toxic "action, but the more exhaustive results of Herter have shown that "it is a very important toxin factor, symptoms of uremia invariably "following whenever the percentage of urea in the blood of animals "exceeds 4 or 5 per cent., death resulting when it reaches 6 per cent.; "or 1 per cent. of the body weight.

"Uric acid $C_5H_4N_4O_3$ Haig has proved that its retention in the sys-
"tem is attended by a great variety of morbid symptoms.

"The purin bodies are the antecedents of uric acid, as shown by
"their chemical symbols, are much more poisonous, and their toxicity
"decreases with their oxidation."

Purin $C_5H_4N_4$
Hypoxanthin $C_5H_4N_4O$
Xanthin $C_5H_4N_4O_2$
Uric Acid $C_5H_4N_4O_3$

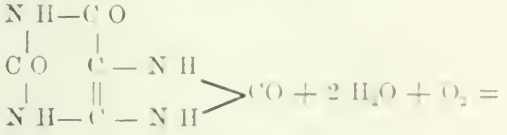
In the fœtus the place of urea is taken in part by allantoin. The toxicity of this body has not, I believe, been determined. During the past year I have been doing some work on this substance, but am not prepared yet to report my results.

Allantoin is found in allantoic fluid, more especially in the calf, but also in fœtal and amniotic fluid: it occurs also in the urine of many animals for a short period after their birth. Traces of it are sometimes detected in the excretion at a later date.

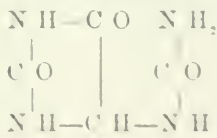
It is obtained in the urine after the internal administration of uric acid. Allantoin is very readily converted into urea, as is shown by the following chemical formulæ:

Uric acid, when oxidized with potassium permanganate (care being taken that the temperature does not rise) takes up water and oxygen, forming allantoin and carbonic acid.

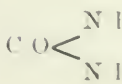
Uric Acid.



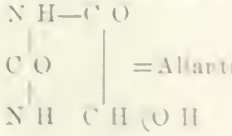
Allantoin.



further oxidation results in the formation of Urea and Allanturic Acid



= Urea



= Allanturic Acid

I feel than until the toxicity of allantoin is determined this substance must be considered as a possible cause of the toxæmia of pregnancy.

Dr. Reddy: Dr. Clifon Edgar in his last edition shows, in my

opinion conclusively, that the liver is to blame for the vast proportion of cases, and, as far as my experience has gone, I absolutely agree with him, and I believe this to be so from the clinical condition and the treatment of it. Bouffe St. Blaise, one of Bouchard's students, shows the striking similarity between insufficiency of liver action and this special condition which arises in pregnancy.

Hertz advances the theory of paralysis of the function of the liver, which may possibly play a part in this condition. Dr. Edgar quotes Dr. Ewing, of Cornell, who has been making a special study of this subject for the last seven years. He regards necrosis of the hepatic cell as inseparable from the acute toxæmia of pregnancy and gives the following degrees; necrosis limited to individual isolated cells throughout the lobule, or involving the zone of cells between the central vein and periphery, or the lobule involved except a slight peripheric rim of cells.

Every one, I think, looks upon the kidney as being only of secondary importance. On looking over the last hundred cases at the Women's Hospital, I found that there were undoubted signs of toxic poisoning in 92 per cent.—that is, there was a serious diminution of urea, 300 grains or less. If I have 400 grains of urea or over I do not mind, as the toxin, whatever it may be, is apparently excreted in direct proportion to the urea, as shown by Bouchard. Out of these hundred women there were only eleven in which there was from a trace to a fair quantity of albumin. I agree with the view that convulsions should not occur in a case under one's care, where, as a rule, it is simply a question of proper management. I would also join in the hope that this subject will receive more attention in the future than it does at present, and that every case which any medical man undertakes will be examined carefully, and if such abnormalities are found, be treated for them. In the last thousand cases admitted into the hospital, we had twelve cases of eclampsia, one case was brought in after labour, and one case had been in the hospital for three days before confinement. This last case was not examined by the House Surgeon, and the patient developed convulsions and died. I blame this neglect for the result, and I have no doubt that had a careful examination been made in this case we could have saved the woman's life. In only one of the twelve cases was marked dpsyncea noticed, which is supposed to point more to true uræmia. That there are cases in which nothing can be done is undoubtedly true, but in the average case, where only limited liver areas are affected, they should as a rule be saved. We know that toxins are produced gradually and have a cumulative action. If there be any signs in the first pregnancy, and should there be other children,

my experience has been that it is likely each time to be more serious, and if neglected may end in convulsions. The kidney condition is, as a rule, nothing more than a kidney which has a certain amount of fatty change, with more work thrown upon it than it is able to do, and, as a rule, it returns to its normal condition after labour. I do not believe that the kidney or its deranged function is, as a rule, the cause of convulsions. As to remedies I have found during the convulsion guaicol of great service. As we all know the pulse and temperature rise considerably as a rule, and I find 20 drops of guaicol rubbed on the abdomen, and repeated if necessary in half an hour, will, within a very few minutes make the pulse soft, or in other words, bleed the woman into her own veins—the temperature also comes down rapidly. Veratrum viride is an uncertain drug. As regards the operative treatment I agree with Dr. Edgar that, practically speaking, when you have a case of convulsions the child should be removed. Deep incisions of the os and cervix are recommended, but I have not personally used them. I have found the Bossi dilator a very excellent instrument in certain cases, it takes at least twenty-five minutes to dilate the os, and if care is not used it is apt to tear the os badly. In one case in which I used it I had a bad tear, but the instrument was not to blame, as I had dilated to the utmost capacity of the instrument without a tear, but there was a very large head, and it was impossible to deliver it without tearing. I certainly feel that the sooner the uterus is emptied the better. Only last week I had a patient who had nine convulsions before entering the hospital and six afterwards, but, as soon as she was delivered, the convulsions ceased.

Dr. Lauterman: I have had occasion to examine the available literature on eclampsia during the last year, and it may be interesting to note that in addition to the theories already referred to there is the view advanced by Müller and others, to the effect that eclampsia is a general intoxication derived from micro-organisms in the uterus. It is, however, with reference to a few facts that have occurred in my own experience that I wish more especially to speak. I have been unfortunate enough to have patients develop eclampsia in spite of the most rigid prophylactic measures—milk diet, skimmed milk, and later Von Noorden's modification with cream and vegetables, but have not fared any better until, acting on the suggestion of Oliphant Nicholson, who believes that the chief symptoms of eclampsia are due to what he defines as thyroid inadequacy, I administered iodo-thyrin with the result that in the two cases under observation at the time, there was a large increase in the amount of urea, with a total disappearance of

albumin, and both cases went to full term and a successful issue. Dr. Evans, in the course of his remarks, spoke of iodo-thyrin as a vaso-dilator, let me add that it is a great deal more, it is one of the most powerful stimulants to metabolism that we have, and one of my patients, a woman weighing nearly 300 lbs., has continued its use in order to reduce her weight, without any injurious effects.

Dr. G. A. Brown: What is the lowest percentage of urea that one would consider dangerous? Several cases with Bright's disease I have followed through pregnancy with the urea down to 150 grains in the 24 hours, and yet the case went on to full time and delivery; one case, indeed, yielding only 125 grains in the 24 hours, which caused the death of fœtus, but no convulsions in the mother. This would further seem to prove that the kidney is not alone at fault.

Dr. Evans: With regard to prevention, I have come to the conclusion that it is not always possible to prevent eclampsia, no matter how careful you may be in your prophylactic treatment. Dr. Shaw's work is the kind which we want to throw light upon this subject,—a careful study of the urine and a careful record of cases, until enough evidence is accumulated to make the study of material benefit. Zangemeister's work extended over two and a half years and all the cases occurred in the Leipzig clinic. He examined the urine under all conditions of rest and exercise and diet, every two and a half hours, from every single case, and the facts accumulated were difficult of explanation. His main conclusions are that the kidneys are not to blame. He says he does not know what the disease is nor where the toxin arises, but offers the opinion from his statements that possibly after all eclampsia may be a neurosis. With regard to the Bossi instrument, it is a dangerous instrument in careless hands; the shoulder pieces have a rather disagreeable way of working loose; it is a difficult instrument to hold in place, and it has a great many objections; but, with a good deal of care, it will give good results in selected cases. Vaginal Cæsarean section will prove of value in particularly urgent cases; for example, in cases where the heart is rapidly failing, or where œdema of the lungs is developing. The operation is not difficult and its dangers can be avoided with attention to detail in carrying out Dühersen's technique.

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A PAGE OF HISTORY:

THE ORIGIN, EVOLUTION AND PRESENT CONDITION OF THE PRACTICE OF MEDICINE IN CANADA.

BY

A. A. FOUCHER, M.D.

After preliminary remarks appropriate to the occasion, Dr. Foucher proceeded to describe the origin of the practice of medicine in Canada:

To retrace the origin of the medical profession in this country and follow its gradual development unto our own day, would be a useful undertaking; and this moment, above all, it appears to me, is one suitable for the task. This page of history, interesting though it appears from the far distance of our origin, I could not describe without having at my disposal, first, the documents, then the frame upon which to display them in proper order and place them in full view. To display those documents, which cover a period of 300 years, is a task requiring more time than I can devote to it, and even the frame of a discourse is too restricted for treating of such a vast question. I desire, however, to lift a corner of the veil that obscures the past. It will be but a bird's-eye-view of the ground covered up to the present day and of the means employed for arriving at the present point.

The physicians who came to this country at the beginning of the colonization brought from France a new medicine, which had issued

President's address at the opening of the Second Congress of French-speaking Physicians of North America, Montreal, 28th June, 1904. (Translation.)

from the clouds of mysticism. It was a positive medicine, derived from the observation of nature on the principle of authority on the experimental and logical method. It was really not till the 17th and 18th centuries that medicine was erected on a really scientific basis. It was the epoch of the great discovery of the circulation of the blood and of the lymph and of the phenomena of nutrition. Its history is sufficiently well known to us, and I need not recall the great names which are connected with it nor indicate the wonderful influence this discovery has had on those who have come after.

The physicians who brought these new ideas needed not a right to practice here or get a special commission to that effect. One of the first doctors mentioned in our history is Bonnerme, who came with Champlain in 1608. Champlain says in his works (iii., 153): "I had six pairs of hand-cuffs made for the instigators of this mutiny (a conspiracy to kill Champlain) "and one of them was for Surgeon Bonnerme."

Later on is mentioned, as first physician at the Hotel Dieu in Quebec, one Robert Gifrard, a nobleman, seigneur of Beauport, physician to the King and Counsellor to His Majesty at Quebec. Jean Madry is mentioned as a practising doctor of the Corporation of the Surgeon Barbers of Paris. His permit to practice in this country reads as follows:— "Commission of Master Barber Surgeon, issued in Paris, the second of April, 1658, by Frs. Barnouin, first surgeon to the King, in favour of Jean Madry, living in Quebec." (Edicts and Ordinances III., 12). He was given power, moreover, to name deputies in the profession, and he was sworn in as first alderman of Quebec the 10th of October, 1663. (Edicts and Ordinances II., 6-10).

That Jean Madry is therefore for us an authentic ancestor, though we cannot conclude from the fact that he came here invested with full powers in medicine that the surgeon barbers monopolized the practice. J. Baptiste de Mosny used to sign himself Lieutenant to the first barber surgeon to the King, but there is nothing to indicate that he was himself a surgeon barber. As to the other doctors mentioned in the history of the Hotel Dieu of Quebec, we have Timothée Roussel, Michael Sarrazin, Michel Berthier and others signing themselves doctors or master surgeons.

The surgeon barbers formed a class intermediate between the doctor and the surgeon. The great discoveries of the 17th and 18th centuries enlarged the horizon of the general practitioner, and now those second-class surgeons became again what they should have been at the beginning, simply nurses. The surgeons saw with pleasure the end of

that hybrid union that gave them such discredit in the eyes of the public. Some wits may say that atavism is the cause of surgeons still "shaving" nowadays—"mais glissons, n'appuyons pas." We can suppose that the privileges of the surgeon barbers were more extensive in this country than they were in France. The population was scattered over a large territory, and the doctors of that time were as busy in saving lives endangered by the neighbouring savage tribes as by sicknesses. The result of this created a very unattractive condition for those doctors well established in France, but in revenge a very favourable occasion arose for the surgeon barbers to create for themselves an honourable position here. We are allowed to suppose that the medical practices of the savages of the country exerted some influence upon our ancestors. The medicinal flora of New France was announced as a new panacea for numerous ills. Even the light of science in this 20th century has not sufficiently enlightened us as to the value of the primitive medicines, so our ancestors cannot be blamed for giving to them more importance than they deserved. Everything tends to prove that at the beginning of the 17th century there were few doctors in North America. We hear of Wooton in 1607, and Russel in 1608 in the United States, but they remained only for a short time, as it is recorded that John Smith, when he was wounded, had to go to England to be treated. In the same year we have seen that the surgeon whom Champlain brought with him, if we believe the rumour, did not begin by very conservative efforts in surgery, as he was suspected of having conspired to kill the founder of Quebec.

Later on, mention is made of Lamontaigne in 1637, and of John Clark from Boston in 1638. However, there must have been a certain number of doctors in Quebec in 1639, as the Duchess d'Aiguillon, niece of Cardinal Richelieu, founded in that year the Hotel Dieu of Quebec, to treat indigent patients, the crippled and idiots. That was the first hospital instituted in North America. Later on, in 1643, to answer the same purpose, Mademoiselle Mance founded the Hotel Dieu of Montreal. We read, however, in the history of that institution that its foundress dislocated her shoulder in falling on the ice, and that Surgeon Bouchard did not recognize the nature of the accident and did not succeed in remedying it, as Mademoiselle Mance went to France to be treated.

From 1660 to 1684 l'Abbé Souard, S.S., was authorized by the Pope to practice medicine in Ville-Marie, and he practiced surgery at the Hotel Dieu de Montreal. In 1675 there were two surgeons in attendance at the Hotel Dieu, namely, Gamelin and Gaillard, and the remark-

able fact here is that the salary received by them was superior to the salaries given nowadays, as those two surgeons received each year the sum of $7.50.

The number of poor patients having become of considerable proportions, there was erected l'Hôpital Général de Quebec, to admit especially the old, the cripples, idiots and foundlings. In 1747 Madame D'Youville took hold of the Hotel Dieu de Montreal, founded for the same purpose by a Congregation of Brothers a few years before. There were at this period only four hospitals in North America—two in Quebec and two in Montreal; and in the United States we read in Burdett's "Hospitals and Asylums of the World" of only one in Pennsylvania, of which John Crosby was the first president, and Benjamin Franklin the first secretary in 1750.

Canada at that period was almost exclusively composed of French, though we see in D'Youville's history that his mother becoming a widow was married again, to the great discomfiture of her family, to an Irish doctor, a graduate of the University of Dublin, who changed his name later on to Sylvain. The flattering appreciation in which the Sisters of the Hotel Dieu of Montreal held that doctor makes us believe that he was connected with their establishment.

Evolution.

At the time of the accession of Canada to England in 1763, the medical profession became strongly Canadian. Of the 60,000 French who remained in the country there were at most 30 of them who were doctors. With the Conquest the French emigration stopped, which up to that time had brought us a contingent of French exiled from their country. They were nobles and ecclesiastics, and in the list of their names there was no mention of a doctor.

The doctors were then obliged to recruit among themselves and to transmit medical instruction to others and create a Canadian profession. The communications with Europe were then scarce, hard, long and expensive, and nowhere have we found any indication that a French-Canadian went to study medicine in France previous to the beginning of the 19th century. On the other hand, there was no school of medicine in existence in the country, and those privileged by fortune with the possession of money and a sufficiently good understanding of the English language went and studied in the United States.

The first medical school in that country was one established by John Morgan and William Shipman in Philadelphia in 1765, and was known

under the name of the Faculty of Medicine of the University of Pennsylvania. However, the University of Harvard is the oldest in the United States, existing since 1638, one year before the foundation of the Hôtel Dieu in Quebec. Medicine was taught there privately in 1647 by Gillis Firmin, and a medical faculty was organized in 1683. The first diploma of M.D. was given in New York in 1670 to S. Kissan and Robert Tucker, and it is only from that period that one can regard the serious medical teaching in North America. Our neighbours had taken the lead in forming the first University and the first school of medicine; they also led us in the matter of medical literature. John Foster, of Boston, wrote the first treatise of medicine in 1670. It is called "Measles and Scarlet Fever, Rules for Treatment, etc." There were three reprints and 20 bindings. The first regular publication of a journal of medicine dated from 1690, and was entitled "Grand Journal de la Pratique de la Médicine de la Chirurgie et de la Pharmacie, dans les Hôpitaux Militaire de France."

It was an American, William Brown, who came to Quebec in 1763 to begin the *Gazette de Quebec,* the first Canadian political paper. It was the third in age on the Continent. I say "political" to use the circumscribed term given to those publications, but that paper treated of everything except the politics of the country. The spirits then were easily inflamed, and to assure the necessary patronage and the financial success of such an enterprise, they had to respect the susceptibilities of everybody, so it was much better consequently to fill the columns with advertisements and the reproduction of articles from abroad, which the editor and manager did in a patois half-French and half-English which is well worth reading were it only for amusement. For a literary effort it was not encouraging. Medical literature could not appear to advantage at that moment, and the first regular medical publication began only at the beginning of the 19th century.

At the time of the foundation of the *Gazette de Quebec* the population was 90,000 French Canadians, an increase of half in 50 years. In 1784 it reached 128,000, and if we estimate a proportion of one doctor for 3,000 population, there were enough doctors to receive recognition, and in 1787 George III. made an ordinance exempting the doctors from service as constables in Quebec and Montreal. The following year he decreed that no one could practice the profession of doctor or surgeon in Quebec and Montreal without the permission of the Government or the Commander-in-Chief, and with a commission to the persons in charge to examine the applicants. That edict marks the first start made in the direction of a body to control professional interests. We

will see it reappear in 1847, under the name of the College des Physiciens of the Province of Quebec, with more extended privileges and powers.

In 1880 there were in the United States five schools of medicine, and at the time of the War of Independence there were 3,500 doctors in a population of 3,000,000. If we suppose the same proportion in Canada, with a population of 420,000, of which 335,000 were in Lower Canada, there must have been in 1811, 400 doctors at the most. No French doctor is mentioned; the last, Jacques Denechaud, of the Hotel Dieu, had died in 1800.

At the beginning of the 19th century we find doctors interesting themselves in the political and literary movements of the country. Dr. Jacques Labrie started *Le Courier de Quebec* in 1807, and formed a literary club in 1809. Already in 1806 Dr. François Blanchet is mentioned as one of the founders of *Le Canada,* and as early as 1800 he published researches "On the Application of Chemistry to Medicine." He was a member of Parliament, in which he played an important part, was surgeon of the militia of Quebec and doctor of the Emigrants' Hospital.

François Blanchet was born at St. Pierre de la Rivière du Sud. He took a course of studies in the Seminary of Quebec, and afterwards went to study medicine in New York. He was one of the first Canadian doctors to graduate in North America, and we owe to him an active co-operation in the foundation of the first medical journal started in Canada, *Le Journal de Medicine de Quebec,* founded in 1826. He was the directing spirit of these two important events, and also erected the basis of medical teaching in this country, in that he gave in Quebec private courses in chemistry—courses which were much sought after and much appreciated. He wrote a great deal in the *Journal de Medicine de Quebec,* and his writings are characterized by great originality. During the fever epidemic in Quebec in 1826, Dr. Blanchet expressed himself in the following terms, "Is typhoid fever contagious? In the actual condition of our knowledge it is hard to give a satisfactory reply; but the facts seem to authorize us to answer that the air of an apartment, the house, and even the whole street can be changed so as not to support life. But what are those exact changes? That has not been taught us, and remains to be known. The words 'miasmus, etc.,' have no significance unless they express the changes brought about in the atmosphere by the breathing of animals and the decomposition of animal and vegetable substances." Further on he adds, "The doctors now agree that good air, abundant bleeding and sprays are the best

weapons to fight those fevers. If I were allowed to give an opinion, I would say that the spray does not only act on account of the cold it produces, but that water, a conductor of electricity, has moreover the effect of ridding the system of the accumulation of electric fluid that happens in fevers on account of the lack of perspiration. And if, as Sir Humphry Davy, Brezelius and his disciples suppose, fire, heat and electricity are one thing, my theory becomes probable." From these reflections it will be seen that he adopted Brand's method.

At that period great importance was given to the nature of the atmosphere, and this first journal contained in all its numbers a meteorological chart of Quebec and Montreal. Dr. Kennedy, in 1800, attributed to the use of over-heated stoves a great number of cases of consumption observed among Canadians at that period. The numerous diseases that devastated the country at that time induced Dr. E. Paschal Tache to publish "Studies on Hygiene and the Devlopment of Physical Strength." These writings appeared towards 1821.

At this period there were in the country a greater number of surgeons than doctors, at least by denomination. The proportion is completely reversed nowadays. For example, I find in a subscription list in aid of the Emigrants Hospital 19 names of doctors, who had, with the exception of two, subscribed themselves as surgeons. It is evident that the title of surgeon had not at that epoch the significance we give it to-day; several of those surgeons even practised active medicine and were only surgeons occasionally. We must infer from this designation rather the fancy of the doctor of that period than the expression of an exclusive specialization. At that time we saw Surgeon Pinchaud, of the First Battalion of Incorporated Militia, Jacques Labrie, surgeon of the Second Battalion, just as we see now surgeons in our battalions who never practised any other surgery than that consisting of the opening of cutaneous abscesses.

In mentioning François Blanchet, we have designated him as a pioneer in medicine. The period that marked the maturity of his activity is worthy of attention for an instant. The *Medical Journal of Quebec* was started in 1826, and was, as we said before, the first medical publication in this country. It was printed and published by Xavier Tessier, and its motto was the following aphorism of Hippocrates: "Vita brevis, ars longa, occasio precops, experientia fallax, judicium difficile." The profession now began to be numerous, but everything yet remained to be done to establish it on an honourable and scientific basis.

In studying separately with patrons the pupils of yesterday became

the doctors of to-morrow, and spread themselves everywhere according to the most pressing needs, hardly knowing any of their confrères, and having rarely the occasion to meet them. The time had come to keep the medical profession posted on the progress of science with the help of a publication, the time was propitious to start a medical society. The first Canadian Medical Society was started in Quebec in 1826.

Joseph Morin was the first President of this society, and François Tessier the first Secretary. In the Medical Journal of Quebec and in this new society was first opened up the question of professional interests, and great changes began to be made. Until then the hospitals of Quebec and Montreal were not used as a means of medical instruction. Drs. Caldwell, Robertson, Stephenson, Holmes and Loedel gave lessons in Montreal, and François Blanchet and Whitelaw taught in Quebec. The hospitals were closed to students, and were reproached with being rather a refuge for the poor and incurable than abodes for the sick. The selection of their doctors was arbitrary, and those favoured owed their nomination rather to their rank or their fortune than to their personal achievements. The foundation of the Emigrants Hospital, under the control of the Government, gave a hope of a new era, but all in vain. By a ministerial decree, the care of the sick was left open to all, each doctor treating his own patients. One can hardly conceive of such a state of things nowadays. As might have been expected, jealousies arose, and the quarrels that resulted from it forced the Government to take other measures. This time it appointed four doctors, selected from the oldest who were then in Quebec. These doctors, whose age rendered them incompetent, gave satisfaction to nobody, and the measure that appointed them to that position was subjected to very severe criticism.

The English General Hospital, founded in Montreal in 1819, had in its regulations the following decree (Art. 3, Chap. 3), "The position of doctor or surgeon will only be given to those having a diploma of a University or College within the limits of the British Empire." This measure made access to the hospital impossible for those who had acquired their medical education in the country. If on one hand it guaranteed to the hospital the aid of doctors who had followed regular courses, by that very fact it gave to those favoured by fortune positions that their personal merit might not have obtained for them. However, the first doctors of that institution played such an important part in the history of the country that it is only just to recognize that these remarks do not apply to them. In fact, we have seen that Drs. Caldwell, Robertson, Stevenson, Holmes and Loedel taught medicine private-

ly, and they were the first doctors in the English General Hospital, and it was they who later founded the first regular school of medicine.

The Honourable James McGill left an endowment to establish a University in a period of time limited after his death, in default of which his fortune was to go to his heirs, the DesRivières family. The time allowed for that foundation was perhaps overdue, but McGill University was created just the same, and the doctors above mentioned constituted themselves into a medical faculty, first known under the name of the Montreal Medical Institution, and later on as the medical faculty of McGill University.

The first course of lectures was opened in the winter of 1829-30. The city had then a population of 15,000, and there were two streets with well-built houses and near each other, St. Paul and Notre Dame Streets. All the rest of the city looked like the country, as the following notice of Dr. Arnoldi in the *Gazette* of Montreal will show:— "A cow and an ox have been for some time past at the subscriber's farm; the owner is desired to prove property, pay the expenses and take them away."

An advertisement of the same doctor, well known at that time, gives us an idea of the morality of the time: "Dr. Arnoldi requests the person who borrowed his brass pump and breast glasses some time ago to return them as soon as possible, as he has an urgent occasion for them and does not recall to whom he has loaned them."

The foundation of McGill University was a remarkable event, as the medical profession would at last feel itself with really Canadian support. The success that has continuously favoured that institution is a matter of gratification for the whole of Canada. Those who mastered the English language were favoured without doubt. However, a great number of our countrymen found means to instruct themselves and prepare themselves to possess similar institutions. Some of our doctors had obtained degrees in the United States, among them Dr. Blanchet; others went to the expense of going to France and Edinburgh to study. We read in the October issue of the *Quebec Medical Journal* a thesis on Cancer of the Uterus, presented and discussed by the Faculty of Paris, May 10th, 1826, by Guillaume J. L. Vallee, of Montreal, Lower Canada. He was a bachelor of arts, surgeon and doctor of Canada, accoucheur and surgeon of the Edinburgh University. Dr. Laterrière was also a graduate of the University of Edinburgh, and after practising some time here established himself in England.

The friction which resulted from the conflicting interests of the two races does not seem to have disturbed the harmony that existed then

between the members of the profession. A farewell dinner was given to Dr. P. DeSalles Laterrière on the occasion of his departure for England is evident proof of this. The most prominent doctors of the two races were gathered there. Toasts were given to John Hunter and to the charitable institutions of Canada, the Countess Dalhousie; and English songs alternated with the popular songs of Old France. If we add to this fact that the Medical Journal was published in both languages, we have a still further proof that the relations between the doctors were of the greatest cordiality.

While those events were happening, the doctors of the two races worked with the same accord to promote the interests of the profession, and now began for the French-Canadians the greatest struggles mentioned in our history, for the conservation of the inheritance of the mother country, struggles which ended with the events of 1837, and resulted in the final recognition of responsible government and of the free use of our language, our religion and our laws. We owe to those events the privilege to gather nowadays as a congress of doctors speaking the French language. During that epoch for more than a century France was so disinterested in us as to leave us to be absorbed by the English race, therefore great was its surprise to learn one day, at the same time with a lesson in geography, a lesson in history that revealed that the snows of this country are not eternal, and above all that the 60,000 children that she had abandoned, poor and humble, had become a people of two millions, and that with continuous perseverance and activity they had preserved their language, their customs, their laws and defended with pride their rights to their civilization. Moreover, not satisfied with preserving in this country the character of those who discovered and colonized it, some of our ancestors went to the United States, and there are some cities in the United States where one hears French spoken just as in Montreal, where they keep with fervour the French tradition, and it is only just to mention that amongst those who worked most efficaciously for that patriotic enterprise were many French-Canadian doctors, who had joined our compatriots in their voluntary exile. In fact, the French-Canadian population who emigrated to the United States represented a whole people, and B. Sulte wrote, "When the wind scatters the ashes of our past, it spreads the seed of the people." France, in looking closely at us, was right in being astonished at our progress. That surprise, from which she has not recovered, accentuates itself year by year. Is it not surprising to see the providential protection which guarded our fate when we saw so many other people being fatally absorbed and anni-

hilated, and to be able to show ourselves to France, after 141 years of separation, in the flourishing condition we find ourselves to-day, taking an active and prominent part in the government of the country, and making our influence felt everywhere, and finally bringing to the general prosperity our portion of labour?

I might be reproached perhaps with abandoning the medical history of the country, as is it not the field of general history that interests us so much in these days of national holidays. If I have insisted upon that digression, it is to show the credit due to the doctors by the immediate events that happened in this country.

Foreigners who visit us do not see a great number of monuments erected in public places to our great men, and yet not far from here, in front of Place Viger, there is a bronze statue that perpetuates the memory of a doctor. In looking at Dr. Chenier in the attitude of a belligerent, a gun in one hand and with the other pointing to an invisible enemy, the idea does not come to us of giving to him the title of benefactor of humanity, and yet Chenier is the only doctor having a monument in this country. If he has not great medical discoveries to his credit, he owes the halo of glory to the sacrifice of his life, which he made for a gift more precious than health, a gift of right, of liberty. It was another compatriot, and this one a great surgeon, who undertook to erect that monument. I refer to the Honourable Dr. Marcil.

Let it be remembered that the end of the war in 1760 and the Treaty of Paris, signed in 1763, left the French-Canadians the creditors of Old France to an amount of forty millions of francs. As Garneau says, it was a thunder-clap to the Canadians when they learned that the paper money of the mother country was repudiated; indeed, the discontent, which was the natural result, was no doubt a great factor in their easy acceptance of the English domination, an acceptance more willing than one might have expected. Later, when LaFayette and Rochambault offered their services to the United States in the struggle for independence, the movement which would have had its natural effect —the turning of French sympathy towards Canada—even if it had been approved or solicited by England, would not have received encouragement from us, we should have remained attached to England in spite of herself.

It is easy to understand that the two important factors which prevented our compatriots from crossing to France for their medical education were, on the one hand, the deep poverty in which Old France left us, and on the other hand the natural discontent which resulted from it. But Time, that great master, finally calmed all feelings and

smoothed out resentments. By dint of work and perseverance, the material condition of the country gradually improved.

Whilst this period of epoch-making events was passing in France, the old *régime,* which had been so fatal to us in the reign of Louis XV., gave place to the Revolution, and it in its turn to Napoleon I. The awakening of France under the intense inspiration of the victories of the first empire gave rise also, in this country, to an awakening of patriotic enthusiasm. We forgot our ancient griefs against the mother country, we remembered our origin, and we claimed proudly to belong to the race of heroes which was dotting the map of Europe with victorious battle-fields. On the other side, the exactions which were laid upon us, and the struggle which we had to maintain in order to preserve our language and our laws were the cause of a sincere and enthusiastic return in sentiment towards the mother country. The defeat of Napoleon at Waterloo was doubtless a death-blow to the schemes of the United States with regard to the acquisition of Canada, and by the same token assured to England the peaceful possession of this country.

Once calm was restored, there were founded the University of McGill in Montreal, and at about the same time King's College in Toronto in 1827. This latter university assumed later the name of the University of Toronto. Then arose in succession the Victoria University of Coburg in 1836, started by the Methodists, and Queens University at Kingston in 1841, founded by the Presbyterians. The year 1843 saw the founding of the Montreal Medico-Chirurgical Society, which lived only two years. Sir William Hingston was present at its decease in the quality of President. At one of the meetings of its second year Dr. Godfrey maintained the thesis that typhoid fever was due to drinking water, and advised its purification by boiling. As one may see, the Society was even then doing good work. The Society was reorganized in 1870, and since then has enjoyed a continuous existence.

A school of medicine and surgery was founded in Montreal in 1842, and was affiliated to the Victoria University of Coburg, with the power of conferring the diplomas of this institution. It continued the teaching of medicine up to 1893, when it became amalgamated with Laval University of Montreal, of which it has remained an integral part. The School of Medicine in Quebec was founded in 1848, and was replaced later by Laval University. Trinity College, University of Toronto, was founded in 1851; then came Laval University in Quebec in 1852. The Canadian Medical Association, which meets every year in one of the principal cities in Canada, was founded in 1867. The

Union Médicale du Canada and the *Société Médicale de Montréal* were founded in 1882. Bishop's University, of Lennoxville, founded a Faculty of Medicine in Montreal in 1872, and finally in 1878 there was established the Laval Medical Faculty of Montreal.

The first medical journal founded in Quebec had a short existence, and there was no French medical journal existing when the *Union Médicale* was founded

Present Condition.

The foundation of the French schools of medicine in this country brought far-reaching results. We were enabled to study the science in a language familiar to us, and to form bonds of union with the great French school and with the geniuses which have decorated it. Then was born a taste for more serious and deeper study, and a desire to cross the ocean and absorb at its very source the science of the great masters. The professors of the new schools were to a certain extent pupils of the Paris Faculty. From year to year the need of going to complete one's studies in France and England was felt more and more widely; one may easily count scores of those who have studied medicine in London; while among ourselves we are able to count at least 10 who are graduates of the Faculty of Paris. Our English confrères are able to say as much concerning their graduates who on their side have gone to England and Germany for the completion of their medical education.

What has been the influence of these scientific pilgrimages to the other side of the Atlantic? I do not hesitate to say that it has been immense. One by one these physicians, scholarly and cultivated, have become dispersed in our Faculties, in our cities and even in the country. They had acquired the taste for work, together with a confidence in themselves and in their art; and they have handed on to others the sacred fire. They have bent their energies towards modifying the curricula of our studies and the methods of teaching. They have founded new chairs; they have established laboratories, museums and libraries. In short, they have been the principal agents in the happy transformation which has been accomplished among us within the last 50 years. It is no more than just to recognize this fact in this public manner, and to give honour to whom honour is due. Nevertheless, we must not lose sight of the real origin of our teaching medical institutions and of their development. In so far as the French-Canadians are concerned, it is above all Old France which has given us the basis: it is the learning which our physicians have acquired there that has

been the cause of such marvellous development. And what we must all especially recognize is the liberal spirit in which this teaching has been given us in Old France. The zeal and self-sacrifice which we have everywhere met among French professors, these merit our praise. You will tell me that they certainly owed us all this; and, thinking of our history, I feel ready to agree with you. Yet Frenchmen of to-day might with full right invoke the law of prescription and claim forgiveness for a desertion which they condemn and regret, and, after all, took place without their consent and participation.

Our misfortunes will at least have had the effect of eliciting their sympathy; and for the last 30 years, during which they have renewed acquaintance with us, this sympathy has been manifested under all circumstances, in politics, in arts, science and letters. A few years ago the Faculty of Paris granted us, as an act of grace and in perpetuity, a copy of all the theses for the degree of Doctor given by that University. One official position, that of Interne in the St. Michael Hospital in Paris, has been by the help of Dr. Recamier granted to a deserving young Canadian physician willing to profit by this advantage. Finally, this last act of the Faculty of Paris in sending an official delegate to this convention indicated still further their kindly feelings toward us. We hope much in the future from these cordial relations, for although the obstacles in the road already passed have been in great measure smoothed out by their help, there still remains a long road to travel, a great deal of hard work to accomplish and many difficult hills to climb.

The guiding idea of our medical future consists in favouring the movement of our young graduates towards the great centres of teaching; to the one end of completing the knowledge which they have acquired here, of enlarging their view and of securing that the rising generation shall be more learned in their art than those which preceded it.. Our medical future depends also upon the scientific relations which physicians as individuals shall establish among themselves; medical societies in all the important centres, a diffusion of work accomplished, a greater harmony in professional relations—such things will strengthen our faith in our profession and its noble destiny. A greater determination in the direction of co-operative work will strengthen the confraternity towards a realization of the idea of service —service both to science and to the race to which we are proud to belong.

I should be lacking in that courtesy which is owing to our English confrères if I did not render homage to the great value of the example

which they are constantly setting us in the maintenance of a high degree of medical culture.

Let me close by saying that if patriotism consists in the best service of one's country, that man will serve it best who, unbound to any school or to any idea which is narrow and mean, knows best how to seize his good where he finds it, no matter what flag may cover it, and who knows best how to spread it abroad in his turn, intelligently, and in such a way as that it shall come to its highest fulfilment.

CARCINOMA OF THE GALL BLADDER.

BY

H. A. Lafleur, M. D., and B. D. Gillies, M.D.

Dr. Gillies: This specimen was taken from a patient 61 years of age, who came to the hospital complaining of a mass in the right flank. At the autopsy, on opening the peritoneum, a mass presented immediately in the right flank, and attached to it was the ascending and part of the transverse colon. At this point it was not possible to say just where the growth sprang from. The cæcum, instead of lying at the brim of the pelvis, was drawn up immediately beneath the growth. The colon was readily dissected from the growth, and showed no infiltration whatever of the intestinal wall. On making a dissection of the duodenum the bile flowed readily through the common duct. On removing the liver and making an incision into the gall bladder it was found that the walls were extensively involved with a soft medullary or encephaloid growth; this involved all the walls of the gall bladder and extended into the liver tissue itself directly. On the convex upper surface of the liver a small mass was seen, which was also of the same nature as the tumour itself, and on section it broke down readily. In the gall duct, common duct, and gall bladder, numerous gall stones were found, about 45 in number, but in spite of this there was no jaundice. At the hilum of the liver a few enlarged glands were found, not much larger than a bean. On section most of these proved to be enlarged from simple inflammatory tissue, but one showed definite infiltration with spheroidal cells.

On microscopic section of the tumour it was found to be made up of cells which showed no definite structure except that they are united together with a slight alveolar tissue. Many of the cells are multinuclear and many are polymorphonuclear, showing that an inflammatory condition was present. The same forms of cells are seen in the growth directly in the liver tissue and in the metastatic growth. These spheroidal cells were also seen in the one gland already noted.

Read before the Montreal Medico-Chirurgical Society, 21st October, 1904

Carcinoma of the gall bladder is not a frequent occurrence, and some of the following facts might be interesting. It is said by some, with regard to the etiology, that heredity plays a part in 17 per cent. of the cases; this is denied by Schueppel, though numerous leaders of the English school show 11-17 per cent. of frequency. Compared with malignant disease in other parts, Leichtenstern collected 10,007 cases of malignant disease in only 6 per cent. of which was there carcinoma of the liver, and in this he included primary as well as secondary growths. In 100 cases in the Cancer Hospital, London, four were found to be primary carcinoma of the liver. With regard to the relative frequency, out of 258 cases of carcinoma of the liver at the Pathological Institute at Berlin only 25 were primary in the gall bladder itself, six primary in the liver, and two of these doubtful; only two were primary in the bile ducts themselves. In Virchow's Archives, 1902, is an article in which are collected all the cases known of bile duct carcinomata. There were only 41, and the most frequent site was on the papilla and at the junction between the cystic and hepatic ducts. With regard to the age it is found to be greater in gall bladder cases than in those where the liver is affected; in the former the average is about 60 years of age, whereas in primary carcinoma of the liver 40 years is the average. This case is interesting also as being a male, as women are more liable on account of their greater frequency to gall stones; some say four times more frequent, others three times. Cholelithiasis also seems to play an active role. Osler puts it as present in 87 per cent. of all the cases, and nearly 5 per cent. of all the cases of cholelithiasis showed cancer of gall bladder or ducts, though other staticians have put it as high as 17-18 per cent. As to the nature of the tumour we frequently find it is the schirrous carcinoma which is the most common. There is also the encephaloid tumour, of which this seems to be an example; colloid degeneration may take place also in the tumour, and the other form is the epithelial. The histological appearances, according to Mayo Robson, may be of the cylindrical or mucous type and the spheroidal-celled type, of which this is an example, and the last is the squamous epithelial type.

Dr. Lafleur: In this case there was no suspicion when I saw it that we had to deal with a carcinoma of the gall bladder. Malignant disease of the intestine was thought of as the patient passed blood by the bowel on two or three occasions, which could not be attributed to any condition about the anus or rectum. The points of interest in the history were the apparent rapidity with which this tumour grew and the short time during which the patient complained of being ill, also the fact that although he had gall stones in the cystic duct to an extraordinary extent, yet the history was absolutely negative on that point,

with no subjective symptoms of cholelithiasis—that is, from the history which we were able to obtain, there being no mention of any previous illness. He seems to have been perfectly well until about the first of August, when, he says, he thinks he strained himself lifting a heavy bale of cloth, after which he felt vague pains for some time, though it was not till the middle of August that he felt his strength failing. In the third week of August he noticed for the first time a lump in the right side of the abdomen low down. It was firm and somewhat tender to pressure. This grew gradually and became very tender. He never had any gastric symptoms, and when he first came to hospital there was no blood in the stools. There had been loss of flesh, which had extended over a year and he was much emaciated, anæmic, with flabby muscles and a distinct cancerous cachexia. There was slight elevation of temperature, slight enlargement of the right and left inguinal glands but no fixity. In the median line about midway between the umbilicus and the ensiform cartilage a small subcutaneous mass was noticed, described here as a gland. There was nothing special in the respiratory or cardio-vascular systems. There was poor appetite, and constipation, with pain and tenderness in the right side of the abdomen. The mass corresponded apparently to the first four inches of the descending colon. On palpation the mass was firm, skin not adherent, descending on inspiration and ascending on expiration. Colon tympany could be made out to the outer side of the mass. The mass gave the impression of being more moveable from side to side, and probably if a little more stress had been laid upon this the condition of the gall bladder might have been suspected, but the size of the tumour was much against this. I changed services on October 1st and, therefore, was not able to follow up the case, else I think the diagnosis would soon have become clear. On September 29th some dark streaks of blood were seen in the stools, and again on October 1st. On October 5th the patient refused his food; the cancer mass progressively enlarged, though there were no obstructive symptoms. The patient continued in this state for another week and died in a condition of profound asthenia.

GLIOMA OF THE RETINA, AFFECTING BOTH EYES.

BY

GEORGE H. MATHEWSON, B.A., M.D., and J. J. ROSS, B.A., M.D.

The case which we are exhibiting this evening was brought to Dr Ross early in September of this year, because of a peculiar yellowish white reflex which was observable in the pupil of the right eye; and it was referred to me for diagnosis on the fifth of that month.

Living Case, presented before the Montreal Medico-Chirurgical Society October 21st, 1904.

The patient was a healthy girl two months' old, and was the first child of young and healthy parents. On looking at the child's face one was at once struck by the abnormal appearance of the right eye, for the pupil, instead of being black, had a peculiar yellowish-white colour, and on looking into the eye one could readily make out that this change in the pupil was due to a tumour which occupied about two-thirds of the temporal half of the eyeball. The tumour was yellowish-white in colour, and its surface, which was irregular in contour, was covered by a network of small bloodvessels. On three sides the tumour sloped gradually down to the level of the retina, but on the mesial side dropped perpendicularly, so that it was impossible to see the base of the tumour on this side, even when the pupil had been dilated by atropin. The left eye seemed normal on casual examination, but when it was turned to the temporal side a slight white reflex could be seen in the pupil. On careful ophthalmoscopic examination, it was found that there was a white tumour in the left eye, which was of small size, and (as in the right eye) was confined to the temporal half of the eyeball. It was about five millimeters high, and could be seen to encroach on the temporal border of the optic disc. This tumour resembled that in the right eye in every respect but size, being not more than one-fouth the size of the other. The pupils were of medium size, the right being slightly the larger.

There was little increase in tension. The mother stated that she had first noticed the peculiar reflex from the right pupil three weeks previously when the child was five weeks old, while she had discovered that at times the left pupil had a similar reflex only a day or two before coming to me.

With these facts to go on, a diagnosis of glioma of the retina—bilateral—and doubtless congenital was made and absolutely unfavourable prognosis was given. Operation was proposed but not insisted on, since the optic nerve was involved in both eyes, and the idea of removing both eyes in an infant seemed too horrible, even if the child's life could have been saved. The mother refused to have the operation performed.

A week later the tension in the right eye was distinctly raised (x1.). The interior chamber was shallow, and the pupil dilated. The left eye was not changed. Up till this time the child suffered no pain.

On October 17th, 1904, five weeks later, the condition was as follows: Right eye in a state of acute glaucoma, eyelids red and swollen, conjunctiva much swollen, and œdematous, cornea opaque and steamy-looking, with considerable pericorneal injection. The eyeball is very tender and painful. The mother states that this condition has been

present for the past three days. In the left eye the tension is decidedly raised, and the white reflex is more noticeable. The condition of the eyes to-night is the same as it was on October 17th.

Schöbl describes the glioma of the retina as "a malignant intra-ocular "tumour found in infancy, which starts from the retina, and after a "period of intra-ocular growth, leads, through increased pressure, to "ectasia, piercing the eyeball with a constant tendency to local relapse, "and metastases, until it finally kills the patient in from two to three "years." While these tumours have doubtless occurred and been observed by physicians since the earliest dawn of medical knowledge, it is not until the nineteenth century that we find a description which can be positively identified as relating to glioma (Schöbl), and it was not until after 1853 that the work of Virchow, Kirschberg, and Von Graefe brought our knowledge of those interesting growths to any degree of completeness. Even up to the present time there is considerable controversy as to their nature and origin. Von Graefe, however, has proved by the Golgi-Cajal impregnation method of staining that gliomata are really composed of hyperplastic neurolgia cells, with a few ganglion cells and nerve fibres. A section of a glioma stained by ordinary methods is seen to consist of small round cells, with a very small amount of protoplasm and a correspondingly large nucleus. The cells have branching processes, and are cemented together by a scanty intercellular cement substance. Ganglion cells are not commonly met with.

Intra-ocular glioma always arises from the retina, and usually from the inner granular layer. Clinically, these growths present the following symptoms and course.

1st Stage.—A small white spot may be seen ophthalmoscopically in the retina.

2nd Stage.—A yellowish-white reflex is seen in the pupil, and by focal illumination this is seen to be due to a tumour in the depth of the eye. Tension is generally raised and the pupil dilated. (The left eye of our case illustrates this stage).

3rd Stage.—Tension is raised to such a degree that glaucoma ensues, the cornea becomes dull and steamy, the sclera and conjunctiva are congested and the lids swollen. (The right eye of our case is in this 3rd stage).

4th Stage.—The tumour has grown to such a degree that it breaks through the eye-ball and keeps on growing extra-ocularly, extending either backward into the orbit or forward beyond the eyelids. Metastases may occur, or the tumour may invade neighbouring organs by direct extension, especially along the optic nerve.

The prognosis is extremely bad. Cases where operative interference is not carried out are, without exception, fatal, death as a rule occurring in from one to three years, either from exhaustion or from the invasion of vital organs.

Operation is of no avail unless undertaken early, and even in the most favourable cases, recurrence is very common. In 1886 only fifteen cases of permanent surgical cure were on record. Glioma is a disease of childhood, and may occur at any age, from fœtal life to twelve years, the vast majority of cases occur before the age of five years. It is usually monocular, but many bilateral cases are on record. Congenital cases are usually bilateral, and seem to be due to some development defect.

As regards the frequency of occurrence, glioma is rare. Schöbl saw only 100 cases in 200,000 eye cases of all kinds, equal to one-twentieth of one per cent., and Arbt gives the same percentage.

THE PROGRESS OF MEDICAL SCIENCE.

BY

Sir James Grant, M.D., K.C.M.G.

Gentlemen:

Permit me to congratulate you on the arrival of a new session of the Medico-Chirurgical Society, and to wish you a long continuance of the vigour of youth, and the enjoyment of a liberal share of public patronage in discharge of the duties and responsibilities of our profession. The histoy of our profession has been too little taught, and the absence of a thorough knowledge of the thorny path of its advancement may have led to the want of due reverence to the work of the past.

How cheering and gratifying it must be to con over the labours of those who have built the very foundation of what is true and ennobling in our profession. How actually little we know of Hippocrates, Dioscorodies, Aretaeus or Galen, who mastered many of the great problems of life, and left an imperishable reputation. True, we know more of Vesalius, Morgagni, Ambrose Paré, Boerhaave and Scarpa, who lived near our time and surroundings. Their life history is an object lesson, and requires careful study and observation to gain even a moderate knowledge of their labours for the good of humanity. The illustrious names of Harvey, Sydenham, John Hunter, Simpson, Lister, Laennec, Bright, Graves, Addison and many others, brighten the paths of science even at the present day. We must not discard the work of the old medical masters as effete and of little service in this twentieth century.

Address at the Opening Session of the Ottawa Medico-Chirurgical Society, October, 1904.

Samuel Johnson carefully summed up his impressions: "If no use be made of the labours of the past ages, the world must remain always in the infancy of knowledge; if every man was to depend upon his own unassisted observation, every man would be marvellously ignorant, and the science of medicine stand still, or cease to be."

As Sir Dyce Duckworth has charmingly expressed it: "The present condition of our profession at home and throughout the Empire is better fitted to inspire hopefulness for the future than has ever been the case. The investigation now in progress with reference to cancer, the study of malaria, due to Manson and Major Ross; the School of Tropical Medicine, enlarging our knowledge as to a clearer conception of those grave diseases, which cut off by the hundred our brethren in distant parts; the introduction recently of trained nurses into the New York schools, to observe closely the initial causes of disease—such are fruitful lines of work, and according to a world-renowned authority, Sir Joshua Reynolds, 'those who were determined to excel must do their work, whether willing or unwilling, morning, noon and night, and they will find it no play but, on the contrary, very hard labour.'"

During the few months elapsed since the close of our last meeting, the scientific world has been truly active, and I will advert briefly to a few subjects of deep and abiding interest to our profession.

A national Association for the Study and Prevention of Tuberculosis was formed at Atlantic City in July, 1904, with Dr. Edward Trudeau, of Saranac Lake, as first President. The ovation given when Trudeau appeared on the platform surpassed anything the large audience had ever witnessed, which was a marked tribute, not only to the pioneer of the sanitarium treatment in America, but as well to the widely known qualities of Trudeau as a physician, scientist and humanitarian. This Association is thoroughly representative of the leaders of the medical profession, and there are evidences of a determination to make it of direct practical value, in legislation, in the education of the public, and in bringing about a co-ordination of philanthropic, medical and educational agencies, for the conquest of the great plague. This Association will doubtless be a source of pride and gratification to physicians, and, in fact, to all who take a sympathetic interest in the warfare against tuberculosis, and will prove a supreme council on all disputed points, as well as a scientific centre, for encouragement in all good work in the investigation of tuberculosis.

According to Dr. Knopf, the work of the past two years on this subject has far exceeded the work of the past five years. There are now in the United States 27 Associations for the prevention of tuberculosis. He advocates in the strongest terms possible a plan for a Ministry of Public Health at Washington, to be in constant touch with

all state and city boards of health, and with effective laws to combat tuberculosis, in man and beast, throughout the Union. To check this plague, we require the combined action of a wise Government, well-trained physicians, and an intelligent public. Such action accomplished would prove an object lesson to Canada.

The Neurons.—The neurone theory, with its protoplasmic processes, or dendrons, and the single axis-cylinder process, with its cone of origin, its collaterals or side branches, and its terminal arborisation, in fact, declares that our nervous system consists of innumerable such anatomically independent nervous units, in contiguity, but not in continuity. A recent discussion at Johns Hopkins Hospital on the surgical importance of the visceral crises in the erythema group (Bulletin July and August, p. 259) brought to light some interesting and instructive manifestations, closely allied to neurotic conditions of the system.

Dr. Osler called attention to the classification of colic:—*First:* Colic associated with intoxications, as in lead poisoning, uraemia, and less frequently with morphia. In the morphine habit, when it is gradually withdrawn, colic may be of a severe character. *Second:* A large class of cases of abdominal pain, associated with functional and organic disturbances of the nervous system. Hysteria is sometimes associated with pain, simulating peritonitis or appendicitis; abdominal pain, with disease of the lung or pleura, the initial stage simulating appendicitis. *Third:* A group of cases with cardiac conditions, referred to the epigastrium, and in angina pectoris the attacks of pain may be below the ensiform cartilage. *Fourth:* There is a large class of cases in which pain is due to lesion of abdominal organs. *Last:* Abdominal pain associated with pelvic diseases, a common form, and difficult to diagnose; also a striking class of cases in which the abdominal pain is of such importance that cases have been admitted to the surgical wards, and laparotomy performed for functional colic, due to angio-neurotic œdema, or puncture of the intestinal wall. Dr. Osler has grouped those cases as follows: *First*, those in which the colic occurs in connexion with a pure angio-neurotic œdema (Quinck's disease); *second*, those in which the skin lesion is simply an urticaria, and the pain supposed to be a colic, may really be part of a nervous affection.

A third class developed arthritis with erythema, purpura, and colic, defined by Henoch, and known by his names; *fourth*, there are cases in which the lesions are multiform erythema with or without œdema, associated with more or less redness and purpura; *last*, a remarkable group of cases with only recurring colic. The surgical and neurotic aspect of these conditions are worthy of serious consideration, in order to avoid a laparotomy, for a case of doubtful abdominal colic.

Medical Inspection of School Children.—The recent report of Dr. Kerr, of London, is well received in England by the Medical Department of the Educational Committee of the London County Council. He draws attention to the fact that, as an institution, the school doctor has been slowly taking root on the continent for many years. Within five years, in Germany, 676 school doctors have been appointed in 234 towns and districts, the regulations for medical examination of school children having been approved by the Minister of Education. In Switzerland, Austria and other European countries, much in this line of action has been accomplished. The London School Board appointed a medical officer in 1891 and the Bradford School Board in 1893, part of whose duties was regular school visitation, and to-day a number of larger towns have appointed medical officers.

On this important subject, in order to protect the lives of our school children, either the teachers should be required to pass an examination in medicine, or else the children should be safeguarded by medical supervision. In fact, it is false economy on the part of educational authorities to expect teachers to perform the duties of a qualified physician. The Boston system requires a local practitioner to attend the schools for an hour every morning, a marked advance in education. The Inter-departmental Committee, of England, on the model course of physical exercise, report that: "No form of educational organization can be considered to be complete, which does not make provision for the systematic reference of questions of school hygiene and the special treatment of individual scholars to medical experts.

Congress of Arts and Science, St. Louis, September, 1904.—At a meeting of the Arts and Science Department, the President, Dr. Jordan, placed in clear light the interdependence of the sanitary and medical sciences and engineering. In the cause of public health, the hygienist and physician cannot afford to ignore the powerful help of the sanitary engineer, who must also be an expert in sanitary laws and conditions.

Alimentary Canal.—The great problem of the present day rests largely in the alimentary canal, and its relationship to the nervous system. How vegetable tissue, such as cabbage, celery, turnips, beets, etc., are converted into blood, or supply the precise material for the formation of blood cells, is still an unsolved physiological enigma. The master minds of our profession have here ample scope for observation. Following in quick succession, the subject of auto-intoxication of intestinal origin crops up. It is in fact the epoch-making work of Professor Bouchard, to whom the credit is chiefly due, of fixing the attention of physicians on the importance of this process. Senator and Jaksch have also discussed it, and the prophylactic and antitoxal treat-

ment recommended by Bouchard has been modified and in a great measure superseded. In the normal state the alimentary canal abounds in microbes. The supposition is that vegetable alkaloids are fabricated in the intestine, absorbed, circulated in the blood, and eliminated by the urine. Bouchard established this important fact by the discovery of ptomains in the fæces. It is now recognized that intestinal digestion is a duplex function, carried out partly by microbic action and enzymic action. Enzymes transform starch into sugar, emulsify fats, convert albumins into peptones and crystalline bodies, and these functions are also carried out by the intestinal microbes, which in fact are the agents of the fermentations produced at the expense of the carbohydrates. In the normal state, the system actually defends itself against the various poisons continuously formed in the alimentary canal. The intestinal epithelium is one line of defence; a second the liver, which arrests and neutralizes the greater part of those which pass the first; the other eliminatory organs, kidneys, lungs and sweat, carry off injurious materials. Among the other defence organs, the strongholds of a healthy system, are the thymus, thyroid and suprarenal bodies.

The Huxley lecture by Sir William MacEwen (October 8th, 1904), brought to light exceedingly interesting and important facts, derived from a careful study of the cæcum, through defects in its walls, as in the case of the observations of Dr. Beaumont on the digestive process. According to MacEwen, cæcal secretion is intermittent, and regulated by reflex excitation, in the introduction of food into the stomach, and becomes active just before the discharge of the contents of the ileum through the ileo-cæcal valve. The cæcal surface is studded with Lieberkühns follicles, and more numerous than in the small intestine, and the succus entericus from these glands plays an important part in the digestive process. The cæcal secretion is under nervous control, reflex in character, and a like nervous mechanism extends to the ileo-cæcal valve, regulating the discharge of the contents of the ileum. Pawlow favours the idea of an acid reflex, in the flow of food through the pylorus, which controls the pyloric orifices and regulates the escape of the stomach contents too rapidly. It is supposed that a like reflex action regulates the ileo-cæcal valve. Cæcal movements begin in the appendix, and are likely transmitted from the superimposed small bowel. The succus entericus from the glands of the appendix is of assistance in cæcal digestion. In the final disintegration of food, the appendix exercises a remarkable influence on the presence of those micro-organisms, which, in the large bowel, also share in the digestive process; a function of the appendix is to maintain cultures of these organisms in a fit state to act upon the cæcal contents, and control their multiplication.

Appendicitis and typhilitis are closely connected with derangement of function in these parts, followed by a statis in the cæcal contents, and finally a disturbance of the micro-organismal fermention, inducing structural change in the intestinal wall, a fruitful source of intestinal trouble.

The Great Omentum.—A conspicuous object for size and fattiness, its extremely atrophic condition, as an exception, is the great omentum. According to Albrecht, who discussed this subject recently before the Gynæcological Society of Munich, the omentum was not meant to keep the stomach in its proper position. In fact, there is no clear evidence that fat is the essential part of the omentum, or that the omentum is a regulator of temperature for the benefit of the viscera, nor that the omentum is a form of ligament to keep the transverse colon in place. Albrecht considers that in pathological conditions the omentum serves three protective purposes, fills hernial sacks (of doubtful advantage), absorbs fluid effusions in the peritoneum, and, by adhesians, limits inflammatory changes, and thus averts peritonitis.

International Congress of Physiology, Brussels (August, 1904).—A lively discussion took place on the auto-regeneration of peripheral nerves, which, according to Bethe, of Strasburg, when permanntly cut off from their tropic centre do not remain permanently degenerated; in fact, they are regenerated and become functional. According to Bethe, it must be shown that these regenerated fibres are not connected with the central nervous system, either by physiological or anatomical evidence or both. Langly and Anderson are of the opinion that in nearly all cases after excision of a long piece of the sciatic or crural nerve, or after sewing the peripheral end into the skin, some connexion was established between the peripheral end, and the central nervous system. The nerve fibres found in the peripheral stump of a divided and regenerated nerve grow out from the central nervous system. The reliability of the autogenetic theory is still of doubtful character.

Cerebellar Localization.—No localization in the cortex cerebelli has been satisfactorily established. The cerebellar motor elements are really not in the cortex, but deeply in the organ itself. Pagano has come to the conclusion that there is a functional localization in the cerebellum.

The Leishman-Donovan Body.—The almost direct and rapid communication between the Dominion and India makes it almost a necessity to take a deep interest in tropical diseases. The Leishman-Donovan body is considered a new genus, belonging to the Sporozoa, and supposed to represent a stage in the life history of a flagellate organism, closely resembling a trypanosoma. It is found chiefly in

the spleen, in cases of chronic fever, and the disease is termed cachexial fever, usually with great enlargement of the spleen. The life history of this parasite outside the body, and how it enters the body, as problems, are still unsolved, the solution of which will clear the way, not only as to our knowledge of this systematic infection, of a septacæmic type, and as to the Leishman-Donovan body, which recently Leishman considered might represent a phase in the development of this flagellate.

I am glad to note the sound principle exemplified here this evening by young qualified medical men associating themselves in as cordial a manner possible with the older practitioners in this Ottawa district, by attending the meetings, joining the Society, and showing a desire to cultivate a spirit of unity, for the good of all concerned. In this city there must be but one Medical Society, to strengthen and intensify the character of scientific work, and the idea of isolation for the interest of the profession and the public should not exist in our midst. To all it would be a source of pride and satisfaction to have in the capital of Canada, the professional talent of which is of a high order, but one Society, and it could undoubtedly wield an influence for good.

The Western Hospital has issued the following appeal, signed by the President:—

"We, the President and Committee of Management of the Western Hospital, desire to make an urgent appeal to the Governors of the Hospital, to its numerous friends and to the charitable public in general.

"During the past five years the work of the institution has greatly increased; while in 1898 the admissions were 294, in 1903 they reached 600; in the outdoor department the consultations rose in the same time from 2,169 to 7,560.

"This remarkable expansion of the medical work, together with the rise in wages and the higher cost of supplies generally, has necessarily called for an increased annual expenditure. We are able to state, however, that with careful management and the exercise of the most rigid economy *we have been enabled to meet current expenses.*

"But the institution is burdened with an old debt of $10,000 nearly half of which is made up of outstanding accounts. This debt is not only a continual source of annoyance and discouragement to the Treasurer, but greatly embarrasses and hampers the work of the Executive. It has been decided to make an earnest effort to wipe out this indebtedness.

"May we not then with confidence ask you to come to our aid by forwarding a subscription for any amount you may be willing to contribute?

THE

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JAMES STEWART,
A. D. BLACKADER,
G. GORDON CAMPBELL,
FRANK BULLER,
H. A. LAFLEUR,
GEO. E. ARMSTRONG
J. GEORGE ADAMI,
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F. G. FINLEY,
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ANDREW MACPHAIL, Managing Editor.

WITH THE COLLABORATION OF

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THE STUDENT'S OBLIGATION.

The wealth of a University, like the wealth of a country consists in its youths. But that does not relieve the citizen from the duties of patriotism, nor the student from the obligations of affection and aid. A university is a charity—something provided for those who, in the meantime, cannot help themselves. In some cases the university is supplied by the state, and the obligation of the student is towards his fellow-taxpayers, many of whom are debarred from sharing in their own contributions, save in so far as the seat of learning affords for their contemplation living examples of urbanity during the summer holidays. But most universities are the product of private generosity. McGill owes almost nothing to the taxpayer and nearly everything to those few persons who were and are friendly to education. In the last annual report, which is at hand, the equipment is set down at $2,137,680.

and the endowment at $2,300,172. The expenditure for that year was $327,986, and of this only $79,373 was drawn from students' fees. There were 1,092 students registered, and by a slight exercise in arithmetic it will appear that each student cost the university a trifle over three hundred dollars, whilst he contributed less than seventy-three. The balance against the student is therefore two hundred and twenty-seven dollars each year, and, after the four years' course, each student is indebted to the university in an amount exceeding nine hundred dollars. But this is not all, for no account has been taken of the equipment, in which every student shares. At an estimate based upon five per cent. of its value, the equipment is worth a hundred thousand dollars a year. The share of each student in this is, therefore, equal to a hundred dollars a year, or four hundred dollars during his course, which brings the total amount expended upon each student, in excess of what he pays, up to the considerable sum of thirteen hundred dollars.

Has the student then no obligation in respect of this thirteen hundred dollars which someone has bestowed upon him? Is it sufficiently discharged if he abstains from damaging the furniture, and listens with toleration to the lectures which are provided for him? An apprentice in a machine shop renders ample service for the instruction which he has received. A student renders no such service to the university, and if he is content to snatch his trade and run, he is there under a false pretence.

It is the custom in some families who are in narrowed circumstances to set aside an initial amount for the education of the eldest child. This one replaces the amount out of his subsequent earnings for the benefit of the second, and the process is repeated until all have had a university training, and finally the money is returned to the parent stock. There is a hint in that to students possessed of a nice sense of honour. Most of the graduates are in circumstances which warrant them in discharging this financial obligation, and yet the number which does so is extremely small. At the time of the issue of the last annual report there were 4,366 graduates of McGill. We have shown that each student draws from the university thirteen hundred dollars in excess of what he pays in; therefore the indebtedness of the graduate body to-day amounts to nearly six millions of dollars.

It is not given to all graduates to do something tangible in return for the benefits which they have received. It is given to all to be something,—namely, loving and loyal. To many students the term *Alma mater* is nothing more than fitting words for the chorus of a sonorous song. It is with them not an affair of the heart. By an easy process of casuistry the financial obligation may be evaded, but

more remains. It rests upon every student and graduate, if he would not condemn himself, to show to the world that he has profited by his university training, to speak well for his university, to defend it in the presence of evil-speaking, to extend its usefulness and so fulfil the chief end which its founders and benefactors had in view. The university has many uses for more money. The benefactors would like to have some sign from students and graduates that their efforts are being appreciated. Therefore, we venture to call attention to the financial aspect of the case; and if we have insisted less strongly than we might upon the higher considerations of loyalty, affection and missionary effort, it is through dread lest students with the acumen of their race might think that we were engaged in the painful operation of writing a tract.

THE PUBLIC HEALTH.

It is time to stop the parrot repetition that nothing is being done for the public health of Montreal. We have had frequent occasion to call attention to the enlightened activity of the Health Committee under Dr. Dagenais in its crusade against disorder, and it is not necessary to rehearse the regulations which they have made, nor to commend again the spirit in which they are being carried out. A new by-law has been enacted in the words: "No person shall spit upon the floor of any railway car, street car or other public conveyance, or upon the floor of any theatre, public building, church, opera house, music hall or hall used for public meetings; railway or steamboat stations or waiting rooms or other public hall, building, room or place, or upon any platform surrounding, in front of, or in the immediate vicinity of any such place; or upon any sidewalk or covered way, within the limits of the city of Montreal."

It would be foolish to suppose that this enactment will instantly inhibit the activity of the salivary glands, but it will have a hortative and educational value. The practice of spitting in the street-cars has entirely disappeared, and no one appears to be much inconvenienced by the prohibition. The secretion of saliva is undoubtedly a natural function, but it is not an inalienable right of the individual to void his secretions in public places. It is also a function which is notoriously wayward and this new prohibition will give it a salutary check.

The Health Committee might now get into communication with the police, and provide the constables with some better means of whiling away the tedium of their occupation than by centering their attention upon their own salivary glands. If these officers were imbued with

the spirit of this by-law, the disgusting and dangerous practice of spitting on the pavements could be stopped in one week.

Another excellent provision is that which covers the exposure of food in public places. Some of the best known grocers are the worst offenders in this respect. The by-law reads: "It shall be unlawful for grocers or other persons to expose for sale outside of their stores, bread or flour or any other food articles liable to be contaminated by exposure to the open air; the same shall be kept inside the stores, in proper receptacles, closely covered, and according to the directions of the said inspector or inspectors." This regulation is not conceived in any spirit of over-refinement or of scientific meddlesomeness. The infection of food by contaminated dust is one of the most prolific causes of disease, as Professor Starkey abundantly demonstrated. Persons who refuse to believe in the existence of things which they cannot see may doubt the dangers from micro-organisms. They cannot be blind to the uncleanly practices of the dog. The driver of the bread-waggon has also come in for the attention which he deserves. The Recorder decided in a recent specific case, and enforced his opinion with a fine, that a bread-waggon may not be used as a dog-kennel. At last we have seen the end of the primitive practice of conveying bread in open waggons exposed to every chance contagion of the streets.

THE ASSOCIATES IN ARTS.

A new controversy has arisen over the control of the examination for the Associate in Arts. Originally the examinations were conducted jointly by McGill and Bishop's College, but of late years the examining power has been held by McGill alone. This is considered by Bishop's College to be a hardship. The proposal now is to transfer the examining power to the Protestant Council of Public Instruction, and to that Dean Moyse makes the obvious reply, that McGill has always reserved the right to require a sufficient examination before admitting any student as an undergraduate.

This statement of Dean Moyse is one which is not open to question, and a similar reply would be equally true if it came from Principal Whitney. One result of the increased assessment levied this year for educational purposes has been to direct public attention to the management of the schools. Though the schools are designated as Protestant, the public mind is resolute that they shall not be employed for furthering the interests of any faith or of any university. The universities are in a sense private institutions; the schools are not. It is open to the School Commissioners to conduct their own final examinations and award diplomas of competence. It is open to the universities to accept

those diplomas as sufficient evidence of qualification to matriculate or to refuse them as they see fit. The one thing which the public will not tolerate is any interference with the independence of the schools. The question which the Commissioners should address to themselves is: Why do so many parents seek private tuition for their children rather than send them to the public schools? The effect of it is to create a gulf between the various elements in the community. The next effect will be that those who derive no direct value from the schools will insist that they be made more efficient for primary instruction, with less attention to the higher subjects. The business of the community is to provide primary education and to see to it that every child obtains its share. It cares nothing that pupils should be educated up to university standards, or that they should enter the universities at all. These controversies between the universities are private matters, and should be dealt with privately.

The present condition of affairs falls with peculiar hardship upon medical men. They contribute more for education, in proportion to their means, than any other class in the community because they are compelled by the exigencies of their profession to inhabit houses whose rental bears a higher proportion to income. Being men of education themselves they desire the best for their children, and that best they do not find in the public schools. That is why we object to the schools becoming involved in outside interests.

By the death of Dr. Duncan Campbell MacCallum on the 13th November, 1904, a well known figure has been removed from the medical profession in Montreal, and from McGill Medical Faculty, one of the few remaining members who were associated with its early days. Dr. MacCallum was born at Isle aux Noix, November 12th, 1825. He pursued his medical studies at McGill University and graduated M.D. in 1850. He continued them in London, Edinburgh and Dublin, and was admitted M.R.C.S., Eng., 1851. Returning to Canada, he entered on the practice of his profession in Montreal and was appointed demonstrator of anatomy in McGill University in 1854. From that time until 1883 he was connected with the university, occupying various positions in the Faculty of Medicine. In August, 1856, he was preferred to the chair of clinical surgery. In November, 1860, he was transferred to the chair of clinical medicine and medical jurisprudence, and in April, 1868, received the appointment of professor of midwifery and diseases of women and children, which position he held until his resignation, in 1883, on which occasion the governors of the university appointed him professor emeritus. He was elected visiting physician to

the Montreal General Hospital, February, 1856. He discharged the duties of that position until 1877, when he resigned, and was placed on the consulting staff. From 1868 till 1883 he had charge of the university lying-in hospital.

Dr. MacCallum was a man who loved to go quietly. He maintained the best traditions of the good physician and was the trusted counsellor in many families up to the time of his death.

Dr. Osler was the first to apply the statistical method to the elucidation of problems in clinical medicine. M. Bertillon had previously employed it in criminology, and Tait McKenzie has since made use of exact measurements as the foundation of his art. Dr. Osler has taken his measuring apparatus into a new field for the investigation of the larger matter of Immortality. Dr. Osler's results are not entirely conclusive, and he has left the matter "in a state of some obscurity," as Samuel Johnson also was obliged to do when a revelation which he was about to make up the subject was interrupted by the arrival of an untimely visitor.

As a result of representations made to the Ontario Government by the Medical Faculty and the Board of Trustees of the Provincial University, an important scheme of hospital improvement will be carried out in Toronto. The Government, with some conditions as to sites for the new buildings required, has provisionally promised $100,000. This, with the donation of $100,000 by Mr. Cawthra Mulock for improving the facilities for clinical teaching, promises well for hospital work in connexion with the new school.

The Medical Health Officer, in his recent report, shows that out of 90 cases of smallpox in Montreal last year, not one person suffered from the disease who had been vaccinated during the last five years. Two years ago, when the officials visited the schools over a thousand scholars refused to attend school because they had to submit to vaccination, but this year they have not had one refusal. In addition to this, the Department has now the co-operation of all classes in the community in enforcing vaccination.

Reviews and Notices of Books.

SURGICAL TREATMENT OF BRIGHT'S DISEASE. By George M. Edebohls, M.A., M.D., LL.D. Published by Frank F. Lisiecki, New York, 1904.

The surgical treatment of Bright's disease is of comparatively recent date; its discovery was accidental, for it was found that in performing

the operation of nephrorraphy, kidneys which were inflamed became healthy when interfered with by stripping the capsule; at any rate albumin and casts disappeared from the urine. The same result has been achieved by many surgeons who have explored kidneys for supposed stone and found nothing; yet, after operation, blood, albumin and casts ceased to be found in the urine. Reginald Harrison, of London, was the first to distinctly declare that lessening of the kidney tension by incision or puncture was a beneficial proceeding in some forms of albuminuria. The question as to the kind of cases which are benefited by operation is not altogether settled yet, the general trend of opinion, however, being that when the disease is confined to one kidney and hence local, benefit accrues, but when general, or the kidney disease is part of a general systemic affection, then operation is useless.

Dr. Edebohls, whose persistent and earnest efforts to bring this subject before the profession, are so well known, has published a book on the Surgical Treatment of Bright's Disease, in which he gives the histories of seventy-two cases operated on for chronic Bright's disease, with seventeen complete cures. Seven deaths were attributed directly to the operation, and nine cases which were at "death's door" before operation lived some time after in comparative comfort, though not cured. Thirteen received no benefit from the operation. In forty-two cases there was great amelioration of the symptoms, though of these a number subsequently died. Some of the detailed cases have been followed for years.

The showing is a good one, though the cases are reported rather briefly and the diagnosis of chronic Bright's disease often asserted rather than proved. In many cases only one kidney was affected, and in others the disease was not of the severe type and had lasted many years. Rosenstein, who has had some experience in Edebohls' operation, states that the cases cured by Edebohls were not true cases of Bright's disease, but rather inflammatory processes due to abnormal mobility of the kidney.

The author's conclusions drawn from the reports is interesting in view of the decided difference of opinion regarding operation amongst the profession. He says: "The evidence submitted, in the author's "opinion, not alone justifies the surgical treatment of chronic Bright's "disease, but establishes surgery as at present the main, if not the "only, hope of sufferers from a hitherto incurable malady."

As to the reason why benefit should result from operation there is no consensus of opinion. Some believe it is due to lessening the tension, others that a new capsule becomes more vascular, others again that the handling of the kidney causes increased stimulation and circulation.

Jabourlay attributes the good effects to vaso-motor influences produced by irritation of sympathetic fibres entering the hilus of the kidney.

Dr. Edebohls is convinced that whatever the cause, operation usually benefits, and every one suffering from chronic Bright's disease should have an opportunity of cure by operation.

The book is rather disappointing, because nearly one-half is taken up by reprints of articles written by the author for various medical journals. Much space is also devoted to a controversy as to who must have the credit for first having performed this operation. The rest of the book is occupied by the histories of the seventy-two cases operated upon. A much smaller book would have made better reading and would have been a much more effective weapon in convincing sceptics who will not wade through repetitions in the many articles written for various publications, domestic and foreign.

We, however, congratulate Dr. Edebohls on the results he has obtained, and the care with which he has followed up his cases, and we trust that his good results may be amply confirmed in the future by other operators.

A Manual of Experimental Physiology for Students of Medicine. By Winfield S. Hall, Ph.D., M.D. (Leipsig), Professor of Physiology, Northwestern University Medical School. 240 pages, with 89 illustrations and a coloured plate. Lea Brothers & Co., Philadelphia and New York. Price, $2.75.

There is, perhaps, no subject in the medical curriculum, in the teaching of which there is more diversity in different universities than practical physiology. Some of the less advanced schools settle the question by giving no course at all. Others go to the opposite extreme, and give the students more than they can digest and assimilate. It is consequently very difficult to write a text-book that can be used to advantage at any school except that for which it is written. The book under review has, perhaps, come nearer the mark than any we have yet seen. The author's view seems to be a broad one, the experiments are well chosen and the preference is given to those having a more or less direct bearing on medical practice. The first chapter deals very well with cell physiology and describes how a number of one-celled organisms may be studied to advantage. In the succeeding chapters most of the usual experiments on muscle and nerve, circulation, respiration, blood, digestion, vision, central nervous system, and animal mechanics are presented with considerable completeness. Among the best chapters is that on the blood, which, after some introductory remarks, proceeds to describe methods of counting the red and white blood corpuscles,

how to centrifugalize the blood and determine the relative volume of corpuscles and plasma, estimation of hæmoglobin by five or six different methods, methods of examining fresh blood staining and classification of leucocytes and staining of bone marrow. Another chapter, equally complete, is that on vision.

There are, of necessity, certain subjects omitted which some teachers might deem worthy of a place. Among such may be mentioned the contraction of unstriped muscle, the action of varying temperatures within the frog's heart, the law of contraction in muscles within the body, the chemistry of blood coagulation, the spectroscopic examination of pigments and the chemistry of urine. In the absence of any perfectly complete book on the subject however, we can heartily recommend this to students who are pursuing a course in practical physiology and feel the need of a good book on the subject. We can also recommend it to teachers, who will find in it many valuable suggestions. A course modelled on this book would give a very sound and sufficient training in the subject and would be an excellent preparation for the future work of the medical student and physician. *W. S. M.*

A Practical Treatise on Genito-Urinary and Venereal Diseases and Syphilis. By Robert W. Taylor, A.M., M.D., Clinical Professor of Genito-Urinary Diseases at the College of Physicians and Surgeons (Columbia University), New York; Consulting Genito-Urinary Surgeon to Bellevue Hospital and to City (Charity) Hospital, New York. Third edition, thoroughly revised. Pp. 757, with 163 illustrations and 39 plates in colours and monochrome. Philadelphia and New York, Lea Brothers & Co., 1904.

That Dr. Taylor is the leading authority upon the subjects which he has made his special study is acknowledged by the profession, and it is gratifying to see a third edition of his book following so closely upon the second one. The text has been fully revised, and new sections necessary to bring the work up to date have been added. The number of illustrations has been increased by twenty-five, and there are twelve new plates in colours and monochrome. The various genito-urinary affections have received full consideration in a terse and clear manner. The description of gonorrhœa and its treatment is excellent, and the remarks upon the fallacies and dangers in some of the views nowadays advanced in the therapeutics of the disease are forcible and timely. He does not encourage medical men, particularly the younger ones, to be always on the lookout for some gonorrhœal specific, for he considers that when properly used nitrate of silver is the ideal agent in the treat-

ment of gonorrhœa in all its stages, and places but little reliance upon the hundred and one agents that have been exploited to revolutionize the treatment of the disease. In the chapter on prostatic hypertrophy he clearly enunciates the indications for operative interference and describes fully the various procedures, but he considers that the selection of the appropriate operation in a given case rests with the surgeon, who must be guided by his own experience and judgment. Catherization of the ureters may be performed only by one who is competent to do such work, but the latest procedure for collecting the urine separately from the two ureters by Dr. Cathelin's "diviseur vésical gradue" is described. No mention is made of Dr. Luys' instrument, designed for the same purpose. Syphilis, which takes up about one-third of the book, is treated in a manner that leaves nothing to be desired.

This new edition will prove a satisfactory and trustworthy guide, and is recommended without hesitation, to all those who are interested in these subjects. *K. C.*

"In the Year 1800." By Samuel Walter Kelley, M.D. The Doctors' Recreation Series, Vol. III. The Saalfield Publishing Co., Akron, Ohio; Chicago; New York.

"In the Year 1800" is the title annexed to this relation of the events which occurred in the life of Dr. Jonathan Brush during that year. In the judgment of the writer of this paragraph, this narrative will in time be looked upon as one of the most important works of fiction written by an American author. The book is of peculiar interest to physicians, but, by reason of its quality it is entitled to rank as literature apart from its professional value. We do not remember to have seen before this the name of the author, Samuel Walter Kelley, in connexion with fiction-writing; but we shall be much mistaken if we do not hear of it again. Most of the recent novels are alike. They are written in a niggardly spirit, as if the author were afraid of running over his hundred thousand words, and in continual danger of losing his reader's attention. Dr. Kelley does not care. He tells his story in his own way, and is no more afraid of being tedious than Sterne or Fielding were. The story of the janitor's sick child is precisely in the vein of "Uncle Toby." The trouble with the young novel-writers is that they have seen nothing, have no experience, and have nothing to say—but they say it well. Dr. Kelley has an enormous range of knowledge, and has given, amongst other things, a wonderful picture of medical practice in 1800. It is more than a book; it is a thing of life. Dr. Kelley will be remembered as the editor of the Cleveland *Medical Gazette*, a position he held for fifteen years, and abandoned only

four years ago. Dr. Kelley has practiced medicine in Cleveland since 1884, and served through the Spanish-American war as Brigade-Surgeon, and emerged with the rank of Major. Dr. Kelley now confines himself to Diseases of Children and is Professor of that subject in the Cleveland College of Physicians and Surgeons.

Blood Pressure as Affecting Heart, Brain, Kidneys and General Circulation. By Louis Fangores Bishop, A.M., M.D., Physician to the Lincoln Hospital, New York, etc. E. B. Treat & Company, New York.

This little book of 112 pages gives the pleasurable feeling that it is based on the author's own clinical experience. If he has used any elaborate apparatus in the collection of his facts he keeps it in the background. We do not imply anything but praise of the book when we describe it as philosophical and suggestive rather than technical and exact. It savours of the consulting room more than of the laboratory. The author describes the arterial system as a reservoir in which the blood is stored up at a suitable pressure and discusses three departures from the normal: primary low tension, high tension and secondary low tension. While not disregarding drugs, he emphasizes the importance in suitable cases of rest in bed, open air exercise, warm saline baths and hypernutrition. In considering high tension cases he discusses carefully the various causes at work and directs treatment at these rather than at the symptom itself. In the last two chapters in which he discusses "general considerations" and "the estimation of blood pressure and the use of the nitrites for its modification," we feel that he is less happy than in the earlier part of the book. On the whole one may say that the first seven chapters constitute very profitable reading, and after perusing them the reader feels too kindly disposed towards the author to be unduly critical of the weaker chapters at the end. W. S. M.

International Clinics, Vol. III., Fourteenth Series, 1904. J. B. Lippincott Company, Philadelphia; Chas. D. Roberts, 1524 Ontario Street, Montreal. Price $2.00.

Three fresh articles are, Syphilis and Suicide, by Alfred Fournier; Rest-Cure in the Treatment of Chronic Constipation, by Isaac Bass, and Scurvy, by Andrew Duncan. There are, in addition, eleven clinics on Syphilis. The treatment of the digestive disturbances occurring in pulmonary tuberculosis is considered by Lawrason; to the treatment of Diabetes Mellitus T. Stuart Hart, has naturally added nothing new. The departments of Medicine, Surgery, Gynæcology and Neurology are, as is usual in this work full and good.

RÖNTGEN RAY DIAGNOSIS AND THERAPY. By CARL BECK, M.D., Professor of Surgery in the New York Post-Graduate Medical School and Hospital; Visiting Surgeon to St. Mark's Hospital and the German Poliklinik. With 322 illustrations in the text. New York and London, D. Appleton & Co., 1904.

The author has produced a book which is in all respects a good and clear exposition of the subjects as known at the present time. Section I. of five chapters is devoted to the apparatus, Röntgen technique, fluoroscopy, skiagraphy, and examination of the patient; full description of the apparatus and the best methods of performing the different examinations, and methods of using the different pieces of apparatus are clearly expounded so that one with but slight knowledge of electricity and electrical apparatus can work the apparatus satisfactorily after a little practice. Section II., of twelve chapters, from chap. vi. to chap. xvii. are devoted to "regionary" work (clinical); chap. vi., Head; vii., Neck; viii., Chest; ix., Abdomen; x., Pelvis and lower extremity; xi., Shoulder and upper extremity; xii., Malformations; xiii., Diseases of bones and joints; xiv., Neoplasms; xv., The Utilization of Röntgen Rays in Fractures; xvi., The operative treatment of deformed Fractures as indicated by the Röntgen rays; xvii., The medico legal aspect of the Röntgen Rays.

Section III.: Effects of the Röntgen Rays; Röntgen Therapy; Special indications; Becquerel Rays and Radium; Finsen Method and ultra Violet rays; Bibliography; Index. Making a volume of 460 pages.

This book is profusely illustrated. The illustrations are well done, of well selected and illustrative case in all the different branches of the subject. The book, as will be seen by reference to the sections and subjects of the chapters, goes into the X-Rays in all departments very systematically. Beginning with the apparatus for producing X-Rays and making use of them for the production of skiagraphs showing the nature of bone deformities, or traumatic lesions, or foreign bodies, or diseased bony tissues, and the descriptions of the apparatus and process of using it are such that an amateur on the subject can go to work almost without further instruction. In a book in which all sections are so well treated it is difficult to make a selection, but, perhaps, the section on the Medico-Legal position of X-Rays is most interesting. The book can be recommended to all who wish to have an up-to-date exponent of the Diagnosis and Therapy as exemplified by the X-Ray. There is only one fault to find with the book; that is, its weight is heavy and very fatiguing to hold, but this is due to the amount of filling in the paper to obtain the surface for the engraving work, which is very beautifully done.

PRACTICAL DIETETICS. By ALIDA FRANCES PATTEE. Second Edition. Published by the Author, 52 West 39th Street, New York .

This is a cook-book—and a good one—with some reasoning and medical observations thrown in for garnishing. If nurses would give more attention to the subject matter of it, they would be more profitably employed than in the study of much which is considered proper in a training school. Cooking at all events they can understand, and this book affords some delectable reading.

QUIZ-COMPENDS. P. Blakiston's Son & Co., Philadelphia. Medical Latin, by W. T. St. Clair, A.M. Price, $1.00.

We do not remember to have seen a book like this. It is an indication of the return to Latin in the best educational systems, now that the teaching of pseudo-science has had its day. It is of value and interest—more so than many books upon medical subjects which are issued.

SAUNDERS' QUESTION COMPENDS. Essentials of Nervous Diseases and Insanity, by John C. Shaw, M.D.: Essentials of Materia Medica and Therapeutics, by Henry Morris, M.D.; Essentials of Bacteriology, by M. V. Ball, M.D.; Essentials of Anatomy, by Charles B. Nancrede, M.D.

Medical News.

HEALTH REPORT OF MONTREAL.

The annual report of the Medical Health Officer of Montreal for the year 1903 has been issued. Taking the population of Montreal as given in the fourth census returns of Canada, completed at the end of April, 1901, by the Federal Government, namely, 267,730 inhabitants, and calculating the probable increase of population up to the middle of the year 1903, the total mortality for this period is 24.30 per thousand. By excluding foundlings, whose parentage did not originate in Montreal, the rate is reduced to 20.21 per thousand.

The mean annual death rate for the past eighteen years, leaving out that for 1885, the year in which the great smallpox epidemic prevailed, was 24.27 per thousand of the population; while the rate for 1901 was 23.25, and that for 1902, 22.58 per thousand. The rate for 1903 was, therefore, 4.56 less than the mean rate for the preceding eighteen years.

Of all diseases consumption was the most fatal with 633 deaths. Under 6 months of age, the mortality formed 27.24 per cent. of the total; from 6 months to 1 year, 10.43 per cent.; from 1 to 2 years,

7.73 per cent.; from 2 to 5 years, 4.97 per cent.; making a total percentage under 5 years of 52.48 per cent. The mortality under 5 years of age was 249 in January, 224 in February, 277 in March, 293 in April, 301 in May, 487 in June, 536 in July, 349 in August, 238 in September, 246 in October, 200 in November and 248 in December.

The mean birth rate of the 16 past years, without distinction as to nationality, was 39.10 per thousand of the population.

The French Canadian birth rate was 49.95 per thousand, that of other Catholics, 25.95, and of Protestants, 24.96 per thousand for the past 16 years.

The total birth rate for 1903 was 36.0 per thousand. The rate for that year among French Canadians was 43.64 per thousand; other Catholics, 30.69, and Protestants, 20.52. The excess of births over deaths was 3,375, distributed as follows: French Canadians, 2,541; other Catholics, 337, and Protestants, 507.

The birth rate in 1903 was 36.0 per thousand, or 3.02 per thousand less than the average for the preceding sixteen years, and yet it is the highest rate since 1896; it is 0.43 per thousand higher than in 1902, and 3.54 per thousand higher than in 1901.

The marriage rate for 1903 was 10.16 per thousand of the population, giving an increase of 1.18 over the mean rate for the preceding sixteen years, or an increase of 0.94 per thousand over the rate in 1902, and 2.01 over that for 1901.

The marriage rate among the French Canadians for 1903 was 10.75 per thousand of the population, or 0.79 per thousand more than the mean rate for the preceding fifteen years, or 1.04 per thousand more than in 1902, and 1.28 per thousand more than in 1901.

Among other Catholics, the rate for 1903 was 7.35 per thousand, or 1.29 per thousand more than the mean rate for the preceding fifteen years: or 0.06 and 1.50 per thousand more than in 1902 and 1901 respectively.

Among Protestants the marriage rate in 1903 was 10.36 per thousand, or 1.39 per thousand more than the mean rate for the preceding fifteen years; or 1.21 per thousand more than in 1902, or 1.32 more than in 1901.

DISTRICT OF ST. FRANCIS MEDICAL ASSOCIATION.

The regular meeting of the District of St. Francis Medical Association was held in Sherbrooke, on Wednesday, November 9th. The officers for the year are: President, Dr. F. J. Austin, Sherbrooke; Vice-President, Dr. S. A. Banfill, East Angus; Secretary-Treasurer, Dr. E.

J. Williams, Sherbrooke; Council, Dr. J. O. Camirand, Dr. L. C. Bachand, Dr. R. A. D. King, Compton.

Several cases in practice of special interest were reported. Dr. M. Mackay, Windsor Mills, reported a case of strangulated hernia in a patient 70 years of age. The patient was in a condition of collapse at the time, and an immediate operation was done at the time with good results. Some eight days after the operation a suppurative otitis media set in and still persists. The question of the relationship of this condition to that of hernia was discussed.

Dr. J. O. Camirand reported a case of total blindness following the drinking of wood alcohol. Reference was made to the report recently made by Dr. Buller on this class of cases.

Dr. E. J. Williams, Sherbrooke, reported a case of ruptured gall bladder, resulting from the ulceration of a stone lodged in that organ, which afterwards passed into the cystic duct. The symptoms at the time of operation were those of a typical case of appendicitis. The abdomen was filled with about two pints of bile-stained fluid. The appendix was found to be intensely congested and bound down to the lateral wall of the pelvis. After the removal of the appendix, the incision was extended up to the ninth rib over the gall bladder, the adhesions broken down and the gall bladder separated from the mass, incised, the stone removed from the cystic duct, the gall bladder closed, and then attached to the abdominal wall. The abdominal wound was partially closed, gauze drainage being used at the upper and lower limits of the incision. Dr. Williams also reported a case of fæcal fistula occurring in a patient seven weeks after an operation which he had performed for pyosalpinx.

Two interesting papers were presented to the meeting by Dr. L. C. Bachand, Sherbrooke, on Diseases of the Frontal Sinuses; and by Dr. W. A. Farwell, Sherbrooke, on Mastoid Disease. Interesting specimens were exhibited in connexion with both papers.

THE WESTERN (GENERAL) HOSPITAL.

Report for the month ending October 31st, 1904.—Indoor: 47 patients admitted, 20 medical, 21 surgical, 7 gynæcological. Outdoor: 559 consultations, 209 medical, 53 surgical, 104 gynæcological, 67 eye and ear, 55 nose and throat, 21 skin, 50 genito-urinary.

Dr. R. W. Bell, second assistant physician at the Asylum for the Insane, London, has been transferred to the position of medical inspector of the Provincial Board of Health. His position has been filled by the transfer of Dr. W. C. Herriman from Kingston; and Dr. McNaugh-

ton, of London, has been transferred to Kingston to succeed Dr. Herriman. Dr. W. P. St. Charles, of the Mimico Asylum, has been appointed to the position of relieving officer to the public institutions, and Dr. Geo. M. Biggs has been appointed assistant to the superintendent at Mimico. Dr. W. T. Wilson, third assistant physician at the Hamilton Asylum, has been transferred to London to succeed Dr. MacNaughton.

The Hamilton Hospital has appealed to the Ontario Government for a grant of money towards the erection of the new wing, which is to cost $50,000. The Governors based their claim for assistance on the ground that outside of the usual Government grant, which amounts to about $2,000 yearly, Hamilton Hospital is maintained entirely by the taxes of the ratepayers, the appropriation always totalling over $30,000, and this year amounting to $37,000. The Premier pointed out that the succession duties brought to the Province about $250,000 per annum, to which the Government added $850,000, and the $1,250,000 thus obtained went back to hospitals and other charitable institutions. Reference was made to a statement that the Government proposed a considerable grant to Toronto Hospital. In that instance, the proposed grant was entirely for medical educational purposes.

The present number completes the thirty-third annual volume of the Montreal Medical Journal. It makes a volume of 902 pages, and contains 54 original communications, some of them of especial value. A limited number of bound volumes will be supplied at the subscription rate of three dollars.

During the month of October, 265 patients were admitted to the wards of the Montreal General Hospital. Deaths numbered 15. In the out-door department there were 3,302 consultations, and the ambulance responded to 145 calls.

The corner-stone of the Mackenzie wing of the Jeffrey Hale Hospital, Quebec, was laid on the 27th October.

Dr. A. M. Campbell has been appointed Superintendent of the Winnipeg General Hospital, in succession to Dr. Halpenny, who has taken up private practice.

Dr. Thomas B. Allen, Trinity, '91, died in Toronto, on the 24th October, in the 32nd year of his age.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

W. Scott Schley, M.D. "Acute Tetanus Cured by Intraneural Injections of Antitoxin." *Medical Record*, October 15, 1904.

The case, a boy of five years, was admitted for treatment three days after onset of symptoms and ten days after accident. The symptoms were well marked. The anterior crural and sciatic nerves were exposed and three c.c. of serum injected into each nerve, care being taken to wound the nerve tissue in order to favour absorption. At the same time a lumbar puncture was done and three c.c. injected, an attempt being made to scratch the nerves of the cauda equina. Rogers' suggestion, a laminectomy, so as to ensure one safely to scratch the cord is deserving of attention. It was not done in this case, nor was the obturator nerve injected. These injections were followed by a subcutaneous one of ten c.c. The following day the convulsive seizures were more frequent and severe and the intraneural injection was repeated, followed during the course of the day by four subcutaneous injections, amounting to 50 c.c. The second day showed no improvement so both intraspinal and intraneural injections were given. The temperature began to drop on the third day, but patient required chloroform repeatedly. During the fourth day 60 c.c. was given subcutaneously. Intraneural injection was given on the fifth day, and from this on there was a progressive improvement. In all, nearly 180 c.c. was given. The value of intraspinal and intraneural injections over subcutaneous is well shown in the chart.

A. Marmaduke Sheild, M.B., B.C. Cantab. F.R.C.S. Eng. "A Case of Gigantic Renal Calculus," *Lancet*, Oct. 15, 1904.

This very interesting and unusual case illustrates the slightness of symptoms attending serious renal disease. Fourteen years previous to operation the patient had his first attack of renal colic, and though several attacks subsequently occurred, he continued his occupation of an omnibus conductor until a short time before admission. At that time the temperature was 101 F., pulse 104, and filling the left flank and loin was a large, rounded, firm swelling, very tender, not moving on respiration. The urine was acid and contained no blood or albumin. The diagnosis was doubtful, but opinions inclined to a large malignant tumour with intrarenal hæmorrhage. At the operation, a large stone weighing 19 ounces was removed. The whole of the stone lay in the shell of renal tissue under the dome of the diaphragm and protected by the ribs.

The inferior part of the tumour, which alone could be felt, was composed of dilated renal calyces containing pus and urinous fluid. The entire kidney was removed. With reference to the best method of dealing with large or multiple calculi when the kidney is much disorganised, the writer believes the anterior incision is the best and states his reasons. The relative value of the X rays in association with clinical evidence is considered as being of great value when positive, but when negative not absolutely to be relied upon.

Willy Meyer, M.D. "Osteoplastic Gastrotomy for Impermeable Cicatricial Stricture of the Œsophagus," *Medical News*, Oct. 29, 1904.

The operation was performed on a boy who, seven years ago, had swallowed caustic lye. In spite of immediate and continuous treatment an impermeable stricture resulted. Various attempts were made to gain entrance to the œsophagus from the stomach, but without success owing to obliteration of the cardiac orifice from scar tissue. An œsophageal lip-fistula had been previously performed to facilitate the finding of an entrance from above, and by means of a cystoscopic tube the upper entrance into the stricture was clearly seen. This spot was probably about one inch above the bifurcation of the trachea. As all attempts at dilatation failed an osteoplastic flap was raised. A U-shaped incision was made, the anterior limb beginning at the middle of the seventh left cartilage, the convexity just below the border of the ribs, and the posterior limb crossing the outer end of the tenth, ninth, eighth, and seventh cartilages. Although the operation was a failure as regards this case, the writer believes it has demonstrated the great help this osteoplastic raising of the lower part of the thorax will be when it becomes necessary to reach the ordinarily inaccessible organs situated in the convexity of the diaphragm.

F. Gregory Connell, M.D. "The Treatment of Hæmatemesis by Gastro-Enterostomy," *Annals of Surgery*, Oct., 1904.

In a short article, the various views regarding the best method of treatment are given. On one extreme there is Moynihan who claims gastro-enterostomy will without doubt prevent recurrence of hæmorrhage. On the other hand such men as Robson, Moullin, Buck, Butlin and others deal directly with the ulcer. That gastro-enterostomy does not, without doubt, prevent recurrence of the hæmorrhage is proven by the case reported and by others collected from the literature. The writer concludes that gastro-enterostomy is indicated in hæmatemesis; first, after a thorough search has failed to reveal the source of the hæmorrhage; second, where the source of the bleeding is discovered,

but in such condition as to make direct treatment impracticable or impossible. He would discountenance the idea, which has become quite prevalent, that nothing is to be gained by searching for the bleeding point, as gastro-enterostomy is all that will be necessary to prevent recurrence of the hæmorrhage.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND W. F. HAMILTON.

PROF. HOPPE SEYLER "On Chronic Changes in the Pancreas in Arterio-Sclerosis and their Relationship to Diabetes Mellitus," *Deut. Arch. Klin. Med., Bd. 81.*

In this article the author points out that diabetes in elderly people is usually associated with marked evidence of arterio-sclerosis. In a former number of this JOURNAL Opie's important observations on the relationship of the islets of Langerhans to diabetes mellitus was reviewed. This writer showed that diabetes resulted from disease of the pancreas provided these small groups of cells were affected, and that extensive disease of the pancreas might exist without diabetes when the islets were spared.

Hoppe Seyler has recorded a series of cases of which the general trend is to prove that arterio-sclerotic changes in the pancreas are a frequent cause of diabetes, and more particularly in those instances in which the islets are involved in the morbid process.

Diabetes in elderly individuals presents certain important differences from the malady in the young. It is usually milder, carbo-hydrates are better borne, and severe complications such as acidosis, acetonuria and coma appear less rapidly, nutrition is better maintained, and indeed there is often a tendency to obesity. On the other hand gangrene is more frequent, especially in the feet, and is due to arterial obstruction. As arterial degeneration precedes the development of the diabetic symptoms, the increase of sugar in the blood is not the cause of the vascular changes.

Nine cases of diabetes are recorded in detail in which the pancreas showed marked sclerosis and contraction of the vessels. In all of these the islets of Langerhans showed marked alteration in structure, such as connective tissue overgrowth, hyalin degeneration of the capillaries, destruction of epithelium, and even in occasional cases hæmorrhages. These changes are much more pronounced in the tail than the body of the organ, the islets being more numerous in this region.

Pancreatic disease secondary to morbid changes in the duct is seldom

attended by diabetes, and in these cases the islets are seldom affected owing partly to their position in the tail of the organ, at a distance from the duct.

As the pancreatic changes depend on a general arterio-sclerotic process, they are frequently associated with such lesions as sclerotic kidneys and arterio-sclerotic changes in the heart and coronary arteries.

The symptoms and course of this pancreatic diabetes present a gradually increasing intensity. At the onset there may be simply glycosuria, then diabetes and later coma. Cases which prove fatal from complications, in which the diabetic symptoms are mild, are accompanied by correspondingly slight changes in the pancreas. As interstitial nephritis is frequent, the amount of urine is often abundant and there is commonly albuminuria. Gangrene occurs oftener than in other forms of diabetes owing to the associated arterial diease leading to narrowing and occlusion of the vessels. The onset is usually insidious and seldom marked by the thirst and polyuria of the disease in earlier life. Other pancreatic symptoms are not prominent. Fatty stools are absent and digestive disturbances are not marked.

Further evidence of the relationship of arterio-sclerosis to pancreatic disease is seen in the frequency with which such individuals suffer from alimentary glycosuria. In a series of cases of arterio-sclerosis in temperate people 28.5 per cent. showed glycosuria after the administration of 100 grams of glucose. Under similar conditions 73 per cent. of intemperate individuals with arterio-sclerosis, and only 35 per cent. of intemperate people without arterio-sclerosis showed sugar in the urine.

The treatment of arterio-sclerotics with diabetes must be chiefly dietetic. Owing to the cachectic state accompanied by catarrhal and atrophic conditions of the alimentary canal, a strict meat diet cannot be carried out. Fat must be administered sparingly owing to the risk of inducing loss of appetite, constipation or even diarrhœa. A light mixed diet including milk usually answers better than a rigorous anti-diabetic regimen.

Beverly Robinson, M.D. "Some Unsettled and Important Problems in the Treatment of Acute Lobar Pneumonia," *Trans. Am. Climat. Soc. 1904.*

Most physicians agree that excesses, over fatigue, chill, bad air, etc., tend to the production of pneumonia. The pneumococcus is found in the mouth and throat of many healthy people, and one or more of the above conditions may render it virulent and active. An antiseptic mouth-wash is therefore advisable if there is reason to believe that pneumonia is imminent. When the first pronounced symptoms such as

chill or pain appear, the writer is a strong advocate of vaporising creasote. He is convinced, although unable to prove, that on several occasions he has thus warded off an attack of impending pneumonia. Although only a mild antiseptic locally, it is an anti-catarrhal remedy of the highest value. The sputa should be rigidly disinfected, and disinfection of the room and clothing should be carried out as in other cases of infectious disease. In poor people, hospital treatment is desirable if treatment can be instituted early. Later, on the third, fourth or fifth day it is often questionable whether removal is advisable, on account of the fatigue and exposure involved. No definite rule can be laid down on this point. In hospital the patient is best treated in a small room to avoid the noise and light of a large ward, and also to facilitate the use of the inhalations on which the writer lays such importance. So far as other patients are concerned, cases of pneumonia should be isolated, as a few are undoubtedly contagious.

The use of opiates is an important problem. At the onset they are occasionally required to alleviate pleuritic pain. Provided the kidneys are healthy there is no objection to its use at this time. Later in the disease it is safer to abstain from the use of the drug as it locks up the secretions and lowers the activity of the respiratory centres, and so prevents the proper oxygenation of the tissues. For delirium and insomnia, provided the kidneys are acting well, a small or moderate amount of morphine is permissible.

Robinson does not believe in the cold bath or pack or even cold applications. High temperatures *per se* are not injurious owing to the duration of the disease, and the nervous shock produced by the toxin is best combatted by warm or tepid spongings.

Quinine although less dangerous than the coal tar preparations should not be used in full doses, although it is of value for its tonic action in smaller doses. Ammonia is a remedy of considerable value in keeping the blood alkaline and fluid. Large doses of digitalis can never do good, and under its use the pulse often becomes tense and irregular. Strychnin is of great value, but the dose must not be pushed too high as it may then induce or aggravate delirium or insomnia. Coca of good quality is often invaluable, or in its absence black coffee.

Saline solution has been useful in some instances, by hypodermoclysis or by the rectum, after a moderate bleeding. The writer has, however, seen death result from an excessive quantity of saline, presumably by dilatation of the right heart. Oxygen to be of use should be given freely and not begun when the patient is nearly moribund. The paper concludes with some remarks on venesection, saline solutions and alcohol.

J. E. Dubé, M.D. "Acute Gonorrhœa followed by Endocarditis and Pericarditis, Nephritis and Death," *La Revue Médicale du Canada,* 2 November, 1904.

A young man, 24 years of age, became infected and applied for remedies at a chemist's shop. He obtained what was probably capsules of methelene-blue and medicated crayons. He promptly developed an acute cytitis and then sought medical advice. The urethral and vesical symptoms quickly yielded, but the patient showed signs of impairment of the heart accompanied by fever, rapid pulse and great enlargement and died within one month of the infection. The autopsy revealed a pericarditis with the sac adherent to the sternum, and endocarditis of the mitral valve. The organism in the vegetations and generally throughout the organs was a staphylococcus.

J. Madison Taylor, M.D., Philadelphia. "Respiratory Education in the Treatment of Lung and Heart Disorders." *N.Y. Med. Jour. and Phila. Med. Journal,* October 8th, 1904.

This communication is offered as a plea for the wider use of educational development of the function of respiration, and is based upon experience in cases where other customary measures had signally failed. The material from which Dr. Taylor's inferences have been drawn consists in great part of neurasthenic patients exhibiting derangements of the respiratory and circulatory organs. Some of them showed advanced tuberculous disease of the lungs, many showed symptoms pointing toward phthisis, also evidences of old pneumonia, chronic bronchitis, pleural adhesions and atelectasis. Certain others displayed definite cardiac disease. In a large number there were various disorders of circulation, vasomotor ataxia, erythromelalgia, œdema, tachycardia, dyspnœa, exophthalmic goitre, evidences of advanced arteriosclerosis and senile myocardia. A great number of children have been studied.

Dr. Taylor makes a strong plea for physical exercise in all these cases, and gives details of the procedure to be followed.

"Gastric Ulcer." *Medical News,* October 8th, 1904.

This number of the *Medical News* contains six articles upon Gastric Ulcer. Dr. Campbell Howard produces elaborate statistical tables from many clinics in many countries, and draws the following conclusions:—

1. Both clinically and pathologically gastric ulcer is less frequent in America than in London and on the Continent.

2. That both clinically and pathologically it is more common in

the north-eastern than in the more southern regions of America, with the exception of San Francisco.

Dr. Thomas B. Fuchter, of Johns Hopkins, describes the condition of the blood and urine in gastric ulcer. In 44 cases the red blood cells were 4,071,000 per c. mm. This is somewhat higher than the average of 51 cases which Cabot counted. They yielded 3,372,000. The count of leucocytes in 45 cases of Dr. Fuchter's series was made, and yielded on an average, in 263 observations, 7,500 per c. mm.

Certain alterations occurred in the urine, but they were not striking nor constant, and might be accidental and due to some other cause.

Dr. Harlow Brooks describes the pathological anatomy of gastric ulcer, conditions for the most part which have been long understood. Dr. Morris Manges enumerates the complications and sequelae, and Dr. Max Einhorn the symptomatology and course of the disease.

DERMATOLOGY.

UNDER THE CHARGE OF F. J. SHEPHERD AND G. GORDON CAMPBELL.

ANTISTAPHYLOCOCCIC AND ANTITUBERCULOUS VACCINES.

In the *British Journal of Dermatology* for August, 1904, there is a report of a demonstration given by Dr. A E. Wright and Captain Douglas before the Dermatological Society of London on the employment of Antistaphylococcic and Antitubercular Vaccines. The method had been entirely successful in cases of acne, furunculosis and sycosis, but not so uniformly so in lupus and other tuberculous affections of the skin, the failures being apparently due to want of experience in dosage.

Dr. Wright introduced his subject by pointing out that in combatting a bacterial disease two methods were applicable, either the use of antiseptics or the production of protective substances in and elaborated by the organism itself. Up to the present the former has been the sole means employed, with a varying degree of success. The latter, while it has certain limitations, if it can, as the authors claim, induce the body to produce in itself the antiseptic agents and determine these to the particular site of the lesion, should prove much more effectual.

The method devised by Dr. Wright and Captain Douglas of increasing the protective substances in the blood is by the inoculation of vaccines—by a vaccine being understood "any substance that, on being inoculated into the body, will cause the generation of a protective substance." The blood of an individual suffering from any disease (e.g., furunculosis)

has been shown to contain much less of this protective substance than that of a normal individual, and if by any means this substance can be increased, the disappearance of the disease will result.

The vaccine for staphylococcus infection is prepared by killing the organisms in a culture of staphylococci by subjecting it to a heat sufficient to destroy without chemically altering the bacteria. The strength of the culture is then determined by mixing a quantity of it with an equal volume of blood and counting the number of bacteria and red cells present in the mixture. The number of red cells being easily estimated, it is a simple matter to determine the number of bacteria per cubic centimetre of the culture, with a possible error of only ten per cent. The vaccine for tubercle used was Koch's new tuberculin, the precaution having first been taken of subjecting it to heat also, as living bacteria had occasionally been found in it. The immediate effect of inoculating a healthy person with the staphylococcus vaccine was found to be the production of more or less marked constitutional symptoms and a diminution in the amount of protective substance present in the blood, a condition termed by the authors "the negative phase." This, however, was followed in two or three days by an increase of considerable amount in the protective substance, an increase that could be maintained by repeating the inoculations at definite intervals. On the other hand, too frequent inoculations were found to be followed by a loss of all the protective substance already gained, and it is to this want of definite knowledge in regard to the intervals at which inoculations should be made and the quantity of vaccine that should be used that the authors attribute their failures. The protective substance produced in the blood has been named by Dr. Wright an "opsonin," and is present in the serum not in the leucocytes. It is surmised that it has the power of paralysing the bacteria and rendering them subject to phagocytosis.

ACUTE INFECTIOUS PEMPHIGUS, AND FOOT AND MOUTH DISEASE.

John T. Bowen. "Acute Infectious Pemphigus in a Butcher during an Epizootic of Foot and Mouth Disease, with a consideration of the possible relationship of the two affections. *The Journal of Cutaneous Diseases,* June, 1904.

The following report of a case of so-called acute pemphigus by Bowen is of interest as furnishing evidence of the relationship between the bullous diseases of the lower animals and acute pemphigus in man. The case was that of a butcher who worked as a meat cutter at the time of

the epizootic of foot and mouth disease in Boston during the autumn and winter of 1902-3. The man wounded his hand while pursuing his occupation, and this resulted in a septic sore. At about the same time his nostrils became blocked by some affection, which caused swelling of the mucous membrane and crusting. Two weeks later a bullous eruption made its appearance over the whole body, and one week after this, at the time of his admission to hospital, the disease had all the characters of an acute pemphigus. There were rather severe constitutional symptoms, temperature ranging as high as 103°F., and a rapid pulse. Cultures made from the blebs showed the presence of numerous colonies of staphylococcus pyogenes aureus and streptococcus pyogenes. The case ran a favourable course, and the temperature had come down to normal eleven days after admission to the hospital.

Bowen has collected twenty similar cases, nine of which were in butchers and the remainder were traced to occupations bringing them into contact with animals or animal products.

Of peculiar interest in connection with the etiology of this case is the epidemic of a severe form of bullous dermatitis following vaccination which occurred in the spring of the same year. The disease made its appearance on an average five weeks after vaccination: and, of the ten cases reported by Howe, six were fatal. While the portions of the body most affected were the upper parts of the trunk and thighs, it was noted that in almost all the disease appeared also on the mucous membranes of the mouth and throat, and this localization suggested a relationship to the foot and mouth disease of animals, which is characterized by fever, and the presence of a bullous eruption on the mucous membranes, feet, teats and udders of the animal. In the reported cases of foot and mouth disease occurring in man which Bowen has collected, the disease closely resembles the acute pemphigus of butchers.

Another important link in the chain of evidence was furnished by Dr. Tyzzer, assistant pathologist at the Harvard Medical School, who undertook the study of vaccinia with reference to its pathology, and obtained virus for this purpose from a vaccine establishment. Several of the calves inoculated died with symptoms of foot and mouth disease, and older cattle in the same barn also suffered from the disease. In order to prove that the infection had been through the virus, some of it was used to inoculate calves at a specially-selected barn in another town, and they also developed the disease.

Bowen concludes that while it must be admitted that there is not sufficient evidence to prove that the virus of foot and mouth disease was concerned in the etiology of the case reported by him, there are

many interesting similarities about the two occurrences, and the possibility of a relationship is far from a remote one.

A CASE OF DARIER'S DISEASE.

J A. Ormerod and J. M. H. Macleod. "On a Case of Darier's Disease." *The British Journal of Dermatology,* September 1904.

A case of this rare form of skin disease is reported by Ormerod and Macleod. The affection was first described by Darier in 1889, and since then about thirty cases have been collected. The disease is mainly one of early life, affects males more than females, is chronic in its course, and while not dangerous to life or health, is most intractable to treatment. It bgins usually on the face, and is most accurately symmetrical. The parts principally affected are the face, scalp, back, abdomen, flexures of the limbs and regions about the genitals. The individual lesion is a flat topped papule covered with a horny crust of a dirty brown colour, which, when scraped off, leaves a red weeping surface, often showing one or more pigmented spots. Of the etiology nothing is known, although at one time it was supposed to be due to a parasite.

The case reported is that of a married woman, thirty-six years of age, in good general health. Nothing in her previous or family history had any apparent bearing on the occurrence of the disease. The eruption first made its appearance one year previous to her coming under observation, when the neck, abdomen and forearms were affected in the order named. At the time of her admission to the clinic, the eruption was seen to be on close inspection distinctly papular, but in the older patches the flat-topped papules were so closely set together as to give the appearance of a diffuse rash. Most of these papules had reached the size of a split pea. The distribution of the eruption was such that the lesions formed a dirty brownish collar about the neck and a broad girdle over the lower part of the abdomen and back.

The histopathology of the case was studied by Macleod from a section of tissue removed from the left inguinal region. It showed the diseased area of the skin to be almost entirely confined to the epidermis. There was much thickening with proliferation of the Malphigian layer. The granular layer was proliferated and dipped down between the blunt epidermal processes, while above it were thick horny plugs of partially cornified epithelium, which corresponded to the clinical papules. The pathological process had no apparent relation to either sweat glands or pilo-sebaceous follicles. Under the high power the structures described originally by Darier as psorosperms, round bodies about the size of an epithelial cell with a doubly-contoured

envelope, and containing a nucleus, were seen. As all attempts to inoculate or cultivate them failed, Darier abandoned his first idea as to their nature, and, according to Macleod, they are now believed to be derived from the prickle cells. It is pointed out by Macleod that, histologically, in many respects the lesions of this disease closely resemble those of molluscum contagiosum.

Society Proceedings.

OTTAWA MEDICO-CHIRURGICAL SOCIETY.

First Meeting, 14th October, 1904.

The opening address was delivered by Sir James Grant upon the "Progress of Medical Science."

The report of the year showed good progress. The following officers were elected:—President, Dr. W. I. Bradley; 1st Vice-President, Dr. L. C. Prevost; 2nd Vice-President, Dr. J. F. Dowling; Secretary, Dr. R. Law; Treasurer, Dr. H. S. Kirby; Librarian, Dr. R. L. Gardner; Curator, Dr. S. W. McKinnon.

A council composed of the following was also elected:—Dr. R. W. Powell, Dr. J. L. Chabot, Dr. J. D. Courtney, Dr. J. A. Grant and Dr. W. C. Cousens.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

The second regular meeting for the Session 1904-05, was held in the Society's Rooms on Friday evening, October 21st, the President, Dr. J. A. Macdonald in the chair.

Dr. G. H. Mathewson presented a living case of Glioma of the Retina in both Eyes. A description of this case appears at page 857.

Drs. H. A. Lafleur and B. D. Gillies read a case report of Carcinoma of the Gall Bladder, illustrated by pathological specimens. The case is reported at page 855.

Dr. D. J. Evans read a paper on the Treatment of Eclampsia. The paper and the discussion which followed will be found at page 821.

The third regular meeting for the Session was held in the Society's Rooms on Friday, November 11th, Dr. J. A. Macdonald, the President, in the Chair.

Dr. J. Alex. Hutchison presented a living case one year after operation by the Lorenz method, performed for congenital dislocation of the hip.

Dr. Archibald: I would like to ask how many changes of plaster were needed to bring the leg down to the more or less parallel position

which it now occupies, and also if there is any shortening at the present time. The head of the bone seems to me a little anterior as compared with that of the opposite side, and I would like to be perfectly sure that it is in the acetabular cavity and not anterior to it, a condition which is so often found in these cases. In the one or two cases I have had the opportunity of following the result has been very good. In one case the leg was brought down rather faster than Lorenz advises, that is, the plaster was changed every six weeks to two months and the limb brought down very gradually without apparently prejudicing in any way the position which was obtained; it was an actual reposition and not a transposition. The question of the absolute lapse of time which should intervene between the primary replacement and the time to bring the hip down must vary with each case, and it is a point of interest to know just how soon one can do so. Hoffa himself after a few weeks of the abducted and externally rotated position, brings it into the internally rotated position and with the leg more or less parallel with the other. The absolute necessity which Lorenz emphasizes so much of keeping the limb so long in the extremely abducted position almost seems to be an exaggeration; certainly the case I have mentioned did not require it.

Dr. Hutchison: There is a little shortening of the limb. With regard to the possibility of the anterior displacement, I thought at first that such was present, but on examining the skiagrams taken at varying periods, I found this showed less and less and I came to the conclusion that the appearance was more due to the undeveloped head than displacement. Certainly you cannot get your fingers into any space behind the bone, so that with the parallel lines of the trochanter in relation to the anterior spines, the relative straightness of the leg, the one with the other, the extent to which the child can bend it and the weight which it can carry makes one feel that there is fairly good position. I took the precaution to examine very carefully under chloroform and we were satisfied that the position was horizontal. I think the appearance in the skiagrams of the head not being in the acetabulum proper is because of its undeveloped condition. As to the number of casts put on, the child has had three during the year, the second replacing the first rather clumsy one, in order that he may go home with a better looking limb.

Dr. Hutchison showed a living case, a boy of 12 years who had been operated upon for separation of the lower epiphysis, the result of having his leg caught between the spokes of the wheel of a moving cart, a year and a half ago.

Dr. Archibald: I recall a case of epiphyseal separation of the humerus which was seen outside, in which attempts were twice made

to reduce the supposed dislocation; it was then tried under ether, but finally operation was resorted to. Even with ligatures the displacement was apparently reproduced and although healing occurred it was with some deformity. An important point is that for a thoroughly good result open incision is necessary.

Dr. Mathewson read a paper on Quinine Amaurosis with report of a case.

Dr. Lapthorn Smith: I have used quinine for a good many years and have never seen any visual trouble. I have generally stopped its administration when the ears begin to buzz. I understand that this trouble is due to a tonic contraction of the muscles which tightened up the drum of the ear. With regard to the headache I have always understood that this was due to the spasm of the involuntary muscle surrounding the blood vessels of the brain causing anæmia of the brain and not congestion. Also on the heart, I should say that quinine was a powerful heart tonic and acted in the same way as it does on all involuntary muscular fibre. Often in abdominal section when we want the gas in the intestines expelled to relieve the depressing action on the heart, we inject quinine into the tract and contract the muscular tissue.

Dr. Blackader: With regard to the congestion and contraction of the vessels in the brain, the first effect is one of congestion and I think this is first shown in the ear as it is the fulness of the vessels which first attracts attention after quinine.

Dr. G. A. Brown: In a case of quinine poisoning I saw two weeks ago the first effect was acute urticaria which shows that there was an early dilatation of the blood vessels with a later contraction. There was vomiting and very severe abdominal colic.

Dr. Mathewson: It is a general idea that large doses of quinine damage the ear, and that here there is often an idiosyncrasy. Several of the patients I mentioned have had permanent serious defects of hearing from large doses of quinine. With regard to the state of the ear after quinine poisoning, it is extremely difficult to dissect out the ear, and experimentally when this is done and the various processes of fixing, decalcifying gone through with, it is really impossible to give any fine diagnosis of the condition which would be present. Rashes are well known after even moderate doses of quinine. Preparations other than what we call quinine, [sulphate], will cause serious trouble. In animals any of the ordinary preparations of cinchona bark will cause amaurosis; in fact in experiments it is the bisulphate which is generally used. In one of the cases in the literature blindness was caused by a preparation of a solution of the bark. As regards the course of the reflex, I am not quite sure of this but I do not see why it could not

go up beyond the optic nerve into the brain, then back down the sympathetic, and so into the vessels. I, however, simply offer this as a suggestion. One must also remember that although the heart acts involuntarily it is not an involuntary muscle, but striped muscle.

Dr. Martin read a paper entitled "Some remarks on the value of Urinary Examination in Nephritis."

Dr. Shaw: The most important point is the estimation of the specific gravity. One of the first symptoms to be noticed in the auto-intoxication of pregnancy is this falling off in the urine of the total quantity and the total solids. An interesting point is the appearance of albumin from time to time and without apparent cause. Last winter I examined a patient immediately after a hockey match and found albumin in the urine which disappeared three or four days later. Herz advances the theory that in the early stages of intoxication a pathological change takes place in the kidney and we get certain changes in the urine such as diminution in quantity, and then what is supposed by Herz to be paresis of the kidney cells, by the irritation of the poison on the kidney cells. Later, this irritation being continued, leads to degeneration.

Dr. Morrow: The facts brought forward with regard to the unreliability of symptoms may be applied to all diseases. We may mistake a case of pneumonia or pleurisy for something else and we must take our signs and check them by the course of influences and symptoms which may be exhibited at the time. No single mode of enquiry will lead us to invariable results.

Dr. Lauterman: It has been proved that every case of albuminuria is not necessarily one of nephritis and I think this applies more especially to the first case mentioned by Dr. Martin. The albuminuria of pregnancy, as stated in the discussion of last evening's paper, has been proved by one author at least to be more or less due to thyroid inefficiency which was promptly relieved by the administration of iodothyrin. I would also like to have heard something about the freezing point of urine and also with regard to the examination of the epithelium. Prof. Heitzman of New York considers this a very much more reliable way of determining the condition of the kidney and the part involved.

Dr. Armstrong: I have found in trying to determine the efficiency of a kidney with a view to operative procedure, that the specific gravity is the best guide, overlooking a small amount of albumin or casts, as such a patient with a good specific gravity may go through a considerable operation well. I think the freezing point practically determines the same thing. Dr. Turner reported 100 cases of the freezing point

of urine but the results were too varied, owing possibly to the imperfect working of a rather complicated instrument. Up to the present I think surgeons are pretty well agreed that the two important points in determining the question of renal efficiency, are the specific gravity and the excretory power of the kidney together with the other symptoms.

DR. MARTIN: I have always been impressed by Caspar's work on the freezing point of urine, but so far it has not added much to the practical value of the diagnosis of a renal disease. With regard to cylindrois no statistics were made as they are very common and re associated with other conditions as well as nephritis. With regard to the epithelium I was not aware that it could be recognised whether epithelium came from the pelvis of the kidney, from the ureter or some of the lower layers of the bladder. So far as the examination of the urine in renal disease is concerned I think it was Welch who said that, while the clinician cannot tell in any way what is happening to the kidney by the condition of the urine, neither can the pathologist, looking at the kidney, tell what condition should be found in the urine.

The fourth regular meeting for session 1904-5 was held in the Society's Rooms on Friday evening, November 18th.

Candidates for resident membership were:—Drs. D. A. Hingston, A. G. McAuley and J. R. Goodall.

Candidates for temporary membership were:—Resident Staff of Western Hospital—Drs. D. W. Morrison, Geo. Briggs, J. J. McGovern and Chas. A. Richardson.

Resident Staff of Women's Hospital:—Dr. Lippiatt.

Resident Staff of Royal Victoria Hospital:—Drs. King, Hardisty, McKechnie, Meakins, Lincoln, Church, McKenty, Hutchinson, Cullin, Faulkner, Gillis, Forster, Charman, Lauchland, Eaton and Rodgers.

Resident Staff of the Montreal General Hospital:—Drs. Campbell, Patch, Anderson, Forbes, Robinson, Fyshe, Ricker, Nutter, Reford, Kerr, Wood and Gibson.

The programme was as follows:—Case Report—(1) Carcinoma of Cardiac End of Stomach, Ridley Mackenzie and B. D. Gillies; (2) Abscess of the Pancreas, W. J. Telfer.

Papers:—(1) Hæmorrhage from the Uterus, Fernand Monod; (2) The placing of Perineal Sutures in position before laceration takes place, A. Lapthorn Smith.

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